95th
Anniversary

SAGER
ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

ORGANIZED 1887

Want reliable power for electronic instruments and controls without costly special wiring?



Just plug in a Sola.

With CAD/CAM systems, numerical or digital process controls, lab instruments, energy-management or security electronics, you often get instructions to put in a "dedicated" power line. But, instead of breaking through walls, cutting trenches in floors, laying special conduit, pulling lots of wire and adding more breakers and switchgear to get reliable power, why not simply plug a portable Sola Power Protector into the outlet that's already there?

Dedicated lines can add anywhere from $1200 to $8000 or more per machine, even in new construction. For a fraction of that cost, a Sola Micro-Minicomputer Regulator not only replaces the dedicated line but does what dedicated lines can't do. It raises and lowers voltage to compensate for line fluctuations and brownouts. It blocks out electrical noise, and destructive power dips or surges. Our new Mini-UPS goes one step further. Its built-in battery maintains power when your electric utility fails. This keeps your electronics running smoothly until your generator comes on line. Both units are available in 60 Hz or 50 Hz.

Dedicated lines, at best, minimize power disturbances that are caused by other equipment in your building. Sola Power Protectors guard you against all kinds of power line disturbances regardless of where they originate. Check this chart to compare effectiveness.

	spikes and faults	dips and surges	line noise		Brownout	Blacko
			common-mode	transverse mode		
	momentary sharp voltage peaks or split-second power outages	short-term high or low voltages due to load start-up or shut-down	Unwanted voltages or frequencies due to bad grounding, switching, or radio-type interference: line-to-ground interference	line-to-line interference	Planned voltage reductions in response to high demand	Total lo of line power
Dedicated Line (with dedicated ground)	some, internal only	some, internal only	some, internal only	some, internal only	No	No
Ultra-Isolation Transformer	No	No	Yes	No	No	No
Sola Micro-Minicomputer Regulator	Yes	Yes	Yes	Yes	Yes	No
Sola Mini-UPS	Yes	Yes	Yes	Yes	Yes	Yes

Don't go through another day risking electronic malfunctic due to unreliable power. Talk to your local Sola Electric representative or distributor.

The Power Protectors

A UNIT OF GENERAL SIGNAL

SOLA



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PRICES AND DATA

Prices and data in this catalog are subject to change without notice. Prices are for comparison only and not intended as quotations. When definite quotations are necessary, write or consult our general office. All local, state and federal taxes, where applicable, must be added to prices quoted.

TERMS

Customers with acceptable credit standing are given terms of net thirty days subject to standard cash discounts on some classes of material. If your credit standing is unknown to us, and you are not rated by commercial agencies, we can give prompt service on your order if it is accompanied by references and other information of a credit character.

ORDERS

When ordering always use manufacturer's name, catalog number and name of article. Orders which are confirming should be prominently marked as such in order to avoid duplication.

ROUTING SHIPMENTS

Customers should send shipping instructions with all orders; but if this is not done, we will use our own judgment in selecting route. Where we allow freight, we reserve the right to choose the routing.

LOSS AND DAMAGE IN TRANSIT

We do not hold ourselves responsible for any loss or damage sustained in transit, and claims of such character should be made promptly against carrier; but if we are notified of such claims, we will gladly lend our assistance to secure adjustment. We employ experienced packers and cannot be held responsible for breakage that occurs after we have obtained good order receipt from transportation companies.

SHORTAGE

All shipments are double checked to prevent errors and shortages. Claims for shortages must be made to us promptly.

RETURNING GOODS

No goods should be returned for credit or exchange without first obtaining permission. We stand ready at all times to rectify any mistake that we make, and with the least cost to our customers, but, under no circumstances, should goods be returned without first consulting us for shipping instructions. We will not receive goods returned without our authorization.

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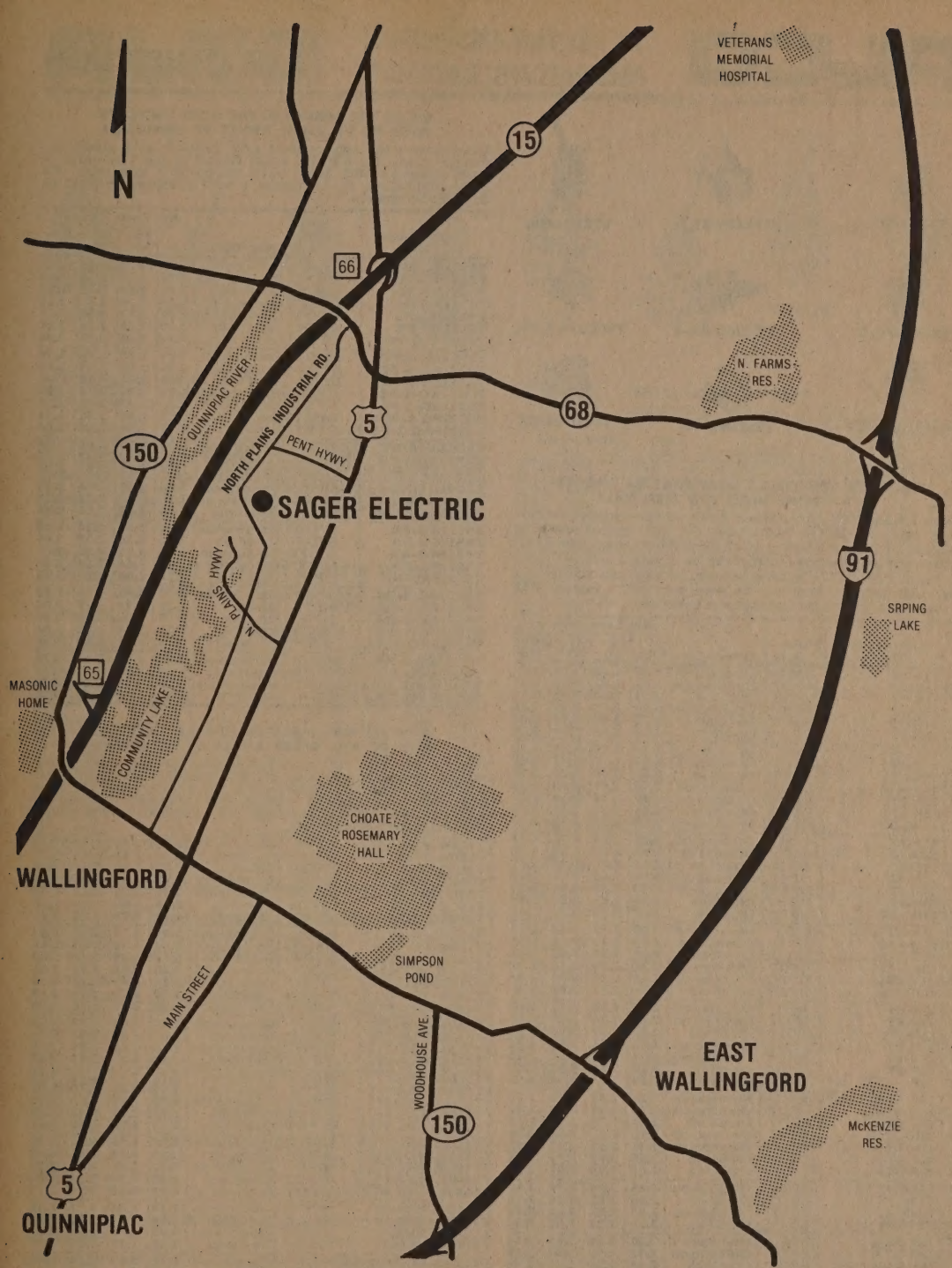
Now that we are in the Nutmeg State, and IN AN 8,000 SQUARE FOOT STOCKED WAREHOUSE, perhaps a review of our years in the land of the Cod are in order.

It all started in 1887, James W. Poole was in business as a distributor and manufacturer of speaking tubes and associate accessories. In 1920, Mr. Joseph E. Sager, after some years with the Poole Company, purchased the organization and named it Sager Electrical Supply Company. This was the start of distribution and service that was unique in the industry, sales of electrical equipment, radio parts, electrical appliances, toys, gift ware, lamp and lighting fixtures.

Now as this catalog depicts, there are left only electronic items and associated electrical components. Not shown are value-added services such as custom cables for IBM, Wang and other computers, assembly of Switchcraft, Schadow, Eaton, and Dialco switching or indicating devices. All of this will soon be done from our Hingham complex, as a 12,000 square foot addition is to be erected.

The one ingredient that will always be with us is service and dedication to you, the customer. We know we have all the modern tools, we know we have inventory, we know we have dedicated employees, we know we have good customers, and we feel quite strongly that we would like YOU also as a customer and friend. So, if you are not, why not try us? We know you'll be glad you did.

And further, as in the past, we sincerely invite you to visit us now at either facility . . . we're proud of our home.



From Rt 15 (Wilbur Cross Parkway):
Exit 66 (Rt 5-at Yale Motor Inn)
South on Rt 5 to Rt 68.
West on 68 to 1st light.
Left on North Plains Industrial Rd;
Sager is ¾ mile on left

From Rt 91:

Exit 15 (Rt 68). West on 68 to 1st left after Rt 5 overpass. Sager is ¾ mile on left.



TT13D-3T



TTE23N-3T



TT13D-9T¼



TT21NG-PC-1



TT21NG-RA-1



TSS11DG-1-RA



TSD21AAG-PC



TSS21NG-PC



TSS21NG-RA

SERIES TT AND TTE 3A SUBMINIATURE TOGGLE SWITCHES WITH LUG TERMINALS

Series TT and **TTE** subminiature toggle switches with silver contacts; rated 3 A @ 125 VAC or 28 VDC; gold flashed solder lug terminals. Choice of ¼-40 or 10-48 threaded bushings. These tiny instrument grade toggle switches can be mounted only ⅜″ apart on panel. Uniform 0.1″ spacing between all terminals and mounting studs permits mounting on standard "perf" boards. **TTE** models have watertight bushings and panel seals.

Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
TT13A-2T	SPST	On-none-off	$1.95	$1.66	$1.56	$1.46
TT13D-2T	SPDT	On-none-on	1.85	1.57	1.48	1.39
TT13E-2T	SPDT	On-off-on	2.35	2.00	1.88	1.76
TT23K-2T	DPST	On-none-off	2.90	2.47	2.32	2.18
TT23N-2T	DPDT	On-none-on	2.70	2.30	2.16	2.03
TT23P-2T	DPDT	On-off-on	3.20	2.72	2.56	2.40
TT13A-3T§	SPST	On-none-off	1.95	1.66	1.56	1.46
TT13D-3T§	SPDT	On-none-on	1.85	1.57	1.48	1.39
TT13E-3T§	SPDT	On-off-on	2.35	2.00	1.88	1.76
TT23K-3T§	DPST	On-none-off	2.90	2.47	2.32	2.18
TT23N-3T§	DPDT	On-none-on	2.70	2.30	2.16	2.03
TT23P-3T§	DPDT	On-off-on	3.20	2.72	2.56	2.40
TT23PA-3T	DPDT	On-on-on	3.90	3.32	3.12	2.93
TT13A-4T	SPST	On-none-off	2.05	1.74	1.64	1.54
TT13D-4T	SPDT	On-none-on	1.95	1.66	1.56	1.46
TT13E-4T	SPDT	On-off-on	2.45	2.08	1.96	1.84
TT23K-4T	DPST	On-none-off	3.00	2.55	2.40	2.25
TT23N-4T	DPDT	On-none-on	2.80	2.38	2.24	2.10
TT23P-4T	DPDT	On-off-on	3.30	2.81	2.64	2.48
TT23PA-4T	DPDT	On-on-on	4.00	3.40	3.20	3.00
TT13A-4T¼	SPST	On-none-off	2.10	1.79	1.68	1.58
TT13D-4T¼	SPDT	On-none-on	2.00	1.70	1.60	1.50
TT13E-4T¼	SPDT	On-off-on	2.50	2.13	2.00	1.88
TT23K-4T¼	DPST	On-none-off	3.05	2.59	2.44	2.29
TT23N-4T¼	DPDT	On-none-on	2.85	2.42	2.28	2.14
TT23P-4T¼	DPDT	On-off-on	3.35	2.85	2.68	2.51
TT13A-6T	SPST	On-none-off	2.15	1.83	1.72	1.61
TT13D-6T	SPDT	On-none-on	2.05	1.74	1.64	1.54
TT13E-6T	SPDT	On-off-on	2.55	2.17	2.04	1.91
TT23K-6T	DPST	On-none-off	3.10	2.64	2.48	2.33
TT23N-6T	DPDT	On-none-on	2.90	2.47	2.32	2.18
TT23P-6T	DPDT	On-off-on	3.40	2.89	2.72	2.55
TT23PA-6T	DPDT	On-on-on	4.10	3.49	3.28	3.08
TT13A-6T¼	SPST	On-none-off	2.20	1.87	1.76	1.65
TT13D-6T¼	SPDT	On-none-on	2.10	1.79	1.68	1.58
TT13E-6T¼	SPDT	On-off-on	2.60	2.21	2.08	1.95
TT23K-6T¼	DPST	On-none-off	3.15	2.68	2.52	2.36
TT23N-6T¼	DPDT	On-none-on	2.95	2.51	2.36	2.21
TT23P-6T¼	DPDT	On-off-on	3.45	2.93	2.76	2.59
TT23PA-6T¼	DPDT	On-on-on	4.15	3.53	3.32	3.11
TTE13D-9T¼	SPDT	On-none-on	2.45	2.08	1.96	1.84
TTE13E-9T¼	SPDT	On-off-on	2.95	2.51	2.36	2.21
TTE23N-9T¼	DPDT	On-none-on	3.30	2.81	2.64	2.48
TTE23P-9T¼	DPDT	On-off-on	3.80	3.23	3.04	2.85
TT13A-9T¼†	SPST	On-none-off	2.05	1.74	1.64	1.54
TT13D-9T¼†	SPDT	On-none-on	1.95	1.66	1.56	1.46
TT13E-9T¼†	SPDT	On-off-on	2.45	2.08	1.96	1.84
TT23K-9T¼†	DPST	On-none-off	3.00	2.55	2.40	2.25
TT23N-9T¼†	DPDT	On-none-on	2.80	2.38	2.24	2.10
TT23P-9T¼†	DPDT	On-off-on	3.30	2.81	2.64	2.48
TT23PA-9T¼	DPDT	On-on-on	4.00	3.40	3.20	3.00

†¼-40 threaded bushing. §10-48 threaded bushing.

SERIES TSS SUBMINIATURE SLIDE SWITCHES WITH PC OR RIGHT ANGLE PC TERMINALS

Instrument grade subminiature slide switches; gold plated terminals, spaced for 0.1″ PC grids. Choice of 0.11″ extended or flush actuators. **-PC** types have straight PC terminals; **-RA** types, right-angle PC terminals. 1 or 2 actuators optional on double pole versions.

Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
TSS11AG-PC	SPST	On-none-off	$2.00	$1.70	$1.60	$1.50
TSS11DG-PC	SPDT	On-none-on	1.90	1.62	1.52	1.43
TSS11EG-PC	SPDT	On-off-on	2.40	2.04	1.92	1.80
TSS21KG-PC	DPST	On-none-off	3.05	2.59	2.44	2.29
TSS21NG-PC	DPDT	On-none-on	2.85	2.42	2.28	2.14
TSS21PG-PC	DPDT	On-off-on	3.35	2.85	2.68	2.51
TSS21PAG-PC	DPDT	On-on-on	4.05	3.44	3.24	3.04
TSS11AG-1-PC	SPST	On-none-off	2.00	1.70	1.60	1.50
TSS11DG-1-PC	SPDT	On-none-on	1.90	1.62	1.52	1.43
TSS11EG-1-PC	SPDT	On-off-on	2.40	2.04	1.92	1.80
TSS21KG-1-PC	DPST	On-none-off	3.05	2.59	2.44	2.29
TSS21NG-1-PC	DPDT	On-none-on	2.85	2.42	2.28	2.14
TSS21PG-1-PC	DPDT	On-off-on	3.35	2.85	2.68	2.51
TSS21PAG-1-PC	DPDT	On-on-on	4.05	3.44	3.24	3.04
TSD21AAG-PC	2XSPST	On-none-off	3.05	2.59	2.44	2.29
TSD21DDG-PC	2XSPDT	On-none-on	2.90	2.47	2.32	2.18
TSD21EEG-PC	2XSPDT	On-off-on	3.70	3.15	2.96	2.78
TSD21AAG-1-PC	2XSPST	On-none-off	3.05	2.59	2.44	2.29
TSD21DDG-1-PC	2XSPDT	On-none-on	2.90	2.47	2.32	2.18
TSD21EEG-1-PC	2XSPDT	On-off-on	3.70	3.15	2.96	2.78
TSS11DG-RA	SPDT	On-none-on	2.25	1.91	1.80	1.69
TSS11EG-RA	SPDT	On-off-on	2.75	2.34	2.20	2.06
TSS21NG-RA	DPDT	On-none-on	3.55	3.02	2.84	2.66
TSS21PG-RA	DPDT	On-off-on	4.05	3.44	3.24	3.04
TSS21PAG-RA	DPDT	On-on-on	4.75	4.04	3.80	3.56
TSS11DG-1-RA	SPDT	On-none-on	2.25	1.91	1.80	1.69
TSS11EG-1-RA	SPDT	On-off-on	2.75	2.34	2.20	2.06
TSS21NG-1-RA	DPDT	On-none-on	3.55	3.02	2.84	2.66
TSS21PG-1-RA	DPDT	On-off-on	4.05	3.44	3.24	3.04
TSS21PAG-1-RA	DPDT	On-on-on	4.75	4.04	3.80	3.56
TSD21DDG-RA	2XSPDT	On-none-on	3.60	3.06	2.88	2.70
TSD21EEG-RA	2XSPDT	On-off-on	4.40	3.74	3.52	3.30
TSD21DDG-1-RA	2XSPDT	On-none-on	3.60	3.06	2.88	2.70
TSD21EEG-1-RA	2XSPDT	On-off-on	4.40	3.74	3.52	3.30

SERIES TT SUBMINIATURE TOGGLE SWITCHES WITH PC AND RIGHT ANGLE PC TERMINALS

"World's Smallest" PC mounted toggle switches; gold plated contacts. Terminals spaced for 0.1″ PC grids. Available with short 0.210″ long toggle and unthreaded 0.176″ bushing or 0.413″ long toggle and ¼-40 threaded bushing. **-PC** types have upright PC terminals; **-RA** types, right-angle PC terminals; **-WW** types, 0.590″ extended PC terminals.

TT11AG-PC-1	SPST	On-none-off	$1.90	$1.62	$1.52	$1.43
TT11DG-PC-1	SPDT	On-none-on	1.80	1.53	1.44	1.35
TT11EG-PC-1	SPDT	On-off-on	2.30	1.96	1.84	1.73
TT21KG-PC-1	DPST	On-none-off	2.85	2.42	2.28	2.14
TT21NG-PC-1	DPDT	On-none-on	2.65	2.24	2.11	1.98
TT21PG-PC-1	DPDT	On-off-on	3.15	2.68	2.52	2.36
TT21PAG-PC-1	DPDT	On-on-on	3.85	3.27	3.08	2.89
TT11AG-PC-9T¼†	SPST	On-none-off	2.05	1.74	1.64	1.54
TT11DG-PC-9T¼†	SPDT	On-none-on	1.95	1.66	1.56	1.46
TT11EG-PC-9T¼†	SPDT	On-off-on	2.45	2.08	1.96	1.84
TT21KG-PC-9T¼†	DPST	On-none-off	3.00	2.55	2.40	2.25
TT21NG-PC-9T¼†	DPDT	On-none-on	2.80	2.38	2.24	2.10
TT21PG-PC-9T¼†	DPDT	On-off-on	3.30	2.81	2.64	2.48
TT21PAG-PC-9T¼	DPDT	On-on-on	4.00	3.40	3.20	3.00
TT11DG-WW-2T§	SPDT	On-none-on	2.15	1.83	1.72	1.61
TT11EG-WW-2T§	SPDT	On-off-on	2.65	2.25	2.12	1.99
TT21NG-WW-2T§	DPDT	On-none-on	3.30	2.81	2.64	2.48
TT21PG-WW-2T§	DPDT	On-off-on	3.80	3.23	3.04	2.85
TT11DG-RA-1*	SPDT	On-none-on	2.15	1.83	1.72	1.61
TT11EG-RA-1*	SPDT	On-off-on	2.65	2.25	2.12	1.99
TT21NG-RA-1*	DPDT	On-none-on	3.35	2.85	2.68	2.51
TT21PG-RA-1*	DPDT	On-off-on	3.85	3.27	3.08	2.89
TT21PAG-RA-1	DPDT	On-on-on	4.55	3.87	3.64	3.41
TT11DG-RA-9T¼†	SPDT	On-none-on	2.30	1.96	1.84	1.73
TT11EG-RA-9T¼†	SPDT	On-off-on	2.80	2.38	2.24	2.10
TT21NG-RA-9T¼†	DPDT	On-none-on	3.50	2.98	2.80	2.63
TT21PG-RA-9T¼†	DPDT	On-off-on	4.00	3.40	3.20	3.00
TT21PAG-RA-9T¼	DPDT	On-on-on	4.70	4.00	3.76	3.53
TT11DG-VRA-1*	SPDT	On-none-on	2.15	1.83	1.72	1.61
TT11EG-VRA-1*	SPDT	On-off-on	2.65	2.25	2.12	1.99
TT21NG-VRA-1*	DPDT	On-none-on	3.35	2.85	2.68	2.51
TT21PG-VRA-1*	DPDT	On-off-on	3.85	3.27	3.08	2.89
TT11AG-PC-9T¼-ES2	SPST	On-none-off	2.55	2.17	2.04	1.91
TT11DG-PC-9T¼-ES2	SPDT	On-none-on	2.45	2.08	1.96	1.84
TT11EG-PC-9T¼-ES2	SPDT	On-off-on	2.95	2.51	2.36	2.21
TT21KG-PC-9T¼-ES4	DPST	On-none-off	3.50	2.98	2.80	2.63
TT21NG-PC-9T¼-ES4	DPDT	On-none-on	3.30	2.81	2.64	2.48
TT21PG-PC-9T¼-ES4	DPDT	On-off-on	3.80	3.23	3.04	2.85
TT21PAG-PC-9T¼-ES4	DPDT	On-on-on	4.50	3.83	3.60	3.38

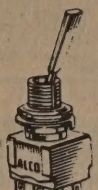
*.176 dia. unthreaded bushing. †¼-40 threaded bushing. §10-48 threaded bushing.

ALCO ELECTRONIC PRODUCTS, INC.

SUBMINIATURE TOGGLE SWITCHES — ALCOSWITCH


MTA


MTE


MTF


MTG


MTL


MTB


MTA-PC


MTA-WW

GREEN SERIES MINIATURE TOGGLE SWITCHES

All ALCO Green Series miniature switches have molded-in terminals which prevent solder, flux and other contaminants from entering the contact area. All contacts are fine silver. Contacts and terminals have gold finish to inhibit oxidation, prolong shelf life, and facilitate soldering. Green diallyl phthalate case withstands high temperatures. All toggle types are U.L. listed and have anti-push-in lever captivation to prevent accidental damage. All types have ¼"-40 high torque bushings, except MTG series; MTG types have ⅜"-32 bushings. Rated 6 amps at 125 VAC, 3 amps at 250 VAC.

GREEN SERIES MINIATURE BAT HANDLE TOGGLES

Terminals accept two #20 AWG wires.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTA-106D	SPDT†	On-none-on	$2.15	$1.83	$1.72	$1.61
MTA-106E	SPDT	On-off-on	2.65	2.25	2.12	1.99
MTA-106F	SPDT	On-none-on†	2.75	2.34	2.20	2.06
MTA-106G	SPDT	On†-off-on†	2.75	2.34	2.20	2.06
MTA-106H	SPDT	On-off-on†	2.75	2.34	2.20	2.06
MTA-206N	DPDT	On-none-on	3.00	2.55	2.40	2.25
MTA-206P	DPDT	On-off-on	3.50	2.98	2.80	2.63
MTA-206R	DPDT	On-none-on†	3.60	3.06	2.88	2.70
MTA-206S	DPDT	On†-off-on†	3.60	3.06	2.88	2.70
MTA-206T	DPDT	On-off-on†	3.60	3.06	2.88	2.70
MTA-206PA	DPDT	On-on-on	4.20	3.57	3.36	3.15
MTA-206SA	DPDT	On†-on-on†	4.40	3.74	3.52	3.30
MTA-206TA	DPDT	On-on-on†	4.40	3.74	3.52	3.30
MTA-306D	3PDT	On-none-on	5.15	4.38	4.12	3.86
MTA-306E	3PDT	On-off-on	5.65	4.80	4.52	4.24
MTA-306F	3PDT	On-none-on†	5.75	4.89	4.60	4.31
MTA-306H	3PDT	On-off-on†	5.75	4.89	4.60	4.31
MTA-406N	4PDT	On-none-on	6.65	5.65	5.32	4.99
MTA-406P	4PDT	On-off-on	7.15	6.08	5.72	5.36
MTA-406PA	4PDT	On-on-on	8.55	7.27	6.84	6.41

GREEN SERIES MINIATURE WATERPROOF TOGGLES

Bat handle, "O" ring seals inside bushing and at panel. Solder lug terminals.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTE-106D	SPDT	On-none-on	$2.70	$2.30	$2.16	$2.03
MTE-106E	SPDT	On-off-on	3.20	2.72	2.56	2.40
MTE-106F	SPDT	On-none-on†	3.30	2.81	2.64	2.48
MTE-106G	SPDT	On†-off-on†	3.30	2.81	2.64	2.48
MTE-106H	SPDT	On-off-on†	3.30	2.81	2.64	2.48
MTE-206N	DPDT	On-none-on	3.55	3.02	2.84	2.66
MTE-206P	DPDT	On-off-on	4.05	3.44	3.24	3.04
MTE-206PA	DPDT‡	On-on-on	4.75	4.04	3.80	3.56
MTE-206R	DPDT	On-none-on†	4.15	3.53	3.32	3.11
MTE-206S	DPDT	On†-off-on†	4.15	3.53	3.32	3.11
MTE-206T	DPDT	On-off-on†	4.15	3.53	3.32	3.11
MTE-306D	3PDT	On-none-on	5.70	4.85	4.56	4.28
MTE-306E	3PDT	On-off-on	6.20	5.27	4.96	4.65
MTE-406N	4PDT	On-none-on	7.20	6.12	5.76	5.40
MTE-406P	4PDT	On-off-on	7.70	6.55	6.16	5.78

GREEN SERIES MINIATURE FLAT HANDLE TOGGLES

Flat lever type has matte chrome finish. Solder lug terminals.

MTF-106D	SPDT	On-none-on	$2.85	$2.42	$2.28	$2.14
MTF-106E	SPDT	On-off-on	3.35	2.85	2.68	2.51
MTF-106F	SPDT	On-none-on†	3.45	2.93	2.76	2.59
MTF-106G	SPDT	On†-off-on†	3.45	2.93	2.76	2.59
MTF-106H	SPDT	On-off-on†	3.45	2.93	2.76	2.59
MTF-206N	DPDT	On-none-on	3.70	3.15	2.96	2.78
MTF-206P	DPDT	On-off-on	4.20	3.57	3.36	3.15
MTF-206R	DPDT	On-none-on†	4.30	3.66	3.44	3.23
MTF-206S	DPDT	On†-off-on†	4.30	3.66	3.44	3.23
MTF-206T	DPDT	On-off-on†	4.30	3.66	3.44	3.23
MTF-206PA	DPDT	On-on-on	4.90	4.17	3.92	3.68
MTF-206SA	DPDT	On†-on-on†	5.10	4.34	4.08	3.83
MTF-306D	3PDT	On-none-on	5.85	4.97	4.68	4.39
MTF-406N	4PDT	On-none-on	7.35	6.25	5.88	5.51

†Indicates momentary position.

GREEN SERIES MUSTANG TOGGLES

⅜" bushing, solder lug terminals.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTG-106D	SPDT	On-none-on	$3.10	$2.64	$2.48	$2.33
MTG-106E	SPDT	On-off-on	3.60	3.06	2.88	2.70
MTG-106F	SPDT	On-none-on†	3.70	3.15	2.96	2.78
MTG-106G	SPDT	On†-off-on†	3.70	3.15	2.96	2.78
MTG-106H	SPDT	On-off-on†	3.70	3.15	2.96	2.78
MTG-206N	DPDT	On-none-on	3.95	3.36	3.16	2.96
MTG-206P	DPDT	On-off-on	4.45	3.78	3.56	3.34
MTG-206R	DPDT	On-none-on†	4.55	3.87	3.64	3.41
MTG-206S	DPDT	On†-off-on†	4.55	3.87	3.64	3.41
MTG-206T	DPDT	On-off-on†	4.55	3.87	3.64	3.41
MTG-206PA	DPDT‡	On-on-on	5.15	4.38	4.12	3.86
MTG-206N-PC	DPDT	On-none-on	4.15	3.53	3.32	3.11
MTG-306D	3PDT	On-none-on	6.10	5.19	4.88	4.58
MTG-306E	3PDT	On-off-on	6.60	5.61	5.28	4.95
MTG-406N	4PDT	On-none-on	7.60	6.46	6.08	5.70
MTG-406P	4PDT	On-off-on	8.10	6.89	6.48	6.08

GREEN SERIES MINIATURE LOCKING TOGGLES

Lever lock toggle must be pulled out to operate. Solder lug terminals.

MTL-106D	SPDT	On-none-on	$3.70	$3.15	$2.96	$2.78
MTL-106E	SPDT	On-off-on†	4.20	3.57	3.36	3.15
MTL-206N	DPDT	On-none-on	4.55	3.87	3.64	3.41
MTL-206P	DPDT	On-off-on	5.05	4.29	4.04	3.79
MTL-206PA	DPDT‡	On-on-on	5.75	4.89	4.60	4.31
MTL-206S	DPDT	On†-off-on†	5.15	4.38	4.12	3.86
MTL-306D	3PDT	On-none-on	6.70	5.70	5.36	5.03
MTL-406N	4PDT	On-none-on	8.20	6.97	6.56	6.15
MTL-406PA	4P3T	On-on-on	10.10	8.59	8.08	7.58

†Momentary positions. ‡Usable as SP3T; wiring on request.

GREEN SERIES MINIATURE BATON LEVER TOGGLES

Stylish 0.6" long baton having black plastic tip. Solder lug terminals.

MTB-106D	SPDT	On-none-on	$2.30	$1.96	$1.84	$1.73
MTB-106E	SPDT	On-off-on	2.80	2.38	2.24	2.10
MTB-106F	SPDT	On-none-on†	2.90	2.47	2.32	2.18
MTB-106G	SPDT	On†-off-on†	2.90	2.47	2.32	2.18
MTB-106H	SPDT	On-off-on†	2.90	2.47	2.32	2.18
MTB-206N	DPDT	On-none-on	3.15	2.68	2.52	2.36
MTB-206P	DPDT	On-off-on	3.65	3.10	2.92	2.74
MTB-206R	DPDT	On-none-on†	3.75	3.19	3.00	2.81
MTB-206S	DPDT	On†-off-on†	3.75	3.19	3.00	2.81
MTB-206T	DPDT	On-off-on†	3.75	3.19	3.00	2.81
MTB-206PA	DPDT	On-on-on	4.35	3.70	3.48	3.26
MTB-306D	3PDT	On-none-on	5.30	4.51	4.24	3.98
MTB-406N	4PDT	On-none-on	6.80	5.78	5.44	5.10

GREEN SERIES MINIATURE TOGGLE SWITCHES WITH PC AND WIRE WRAP TERMINALS

PC terminals are 0.250" long; WW types have 0.031" x 0.050" x 0.740" long terminals.

MTA-106D-PC	SPDT	On-none-on	$2.25	$1.91	$1.80	$1.69
MTA-106E-PC	SPDT	On-off-on	2.75	2.34	2.20	2.06
MTA-106F-PC	SPDT	On-none-on†	2.85	2.42	2.28	2.14
MTA-106G-PC	SPDT	On†-off-on†	2.85	2.42	2.28	2.14
MTA-106H-PC	SPDT	On-off-on†	2.85	2.42	2.28	2.14
MTA-206N-PC	DPDT	On-none-on	3.20	2.72	2.56	2.40
MTA-206P-PC	DPDT	On-off-on	3.70	3.15	2.96	2.78
MTA-206R-PC	DPDT	On-none-on†	3.80	3.23	3.04	2.85
MTA-206S-PC	DPDT	On†-off-on†	3.80	3.23	3.04	2.85
MTA-206T-PC	DPDT	On-off-on†	3.80	3.23	3.04	2.85
MTA-206PA-PC	DPDT	On-on-on	4.40	3.74	3.52	3.30
MTA-306D-PC	3PDT	On-none-on	5.45	4.63	4.36	4.09
MTA-306E-PC	3PDT	On-off-on	5.95	5.06	4.76	4.46
MTA-306F-PC	3PDT	On-none-on†	6.05	5.14	4.84	4.54
MTA-306H-PC	3PDT	On-off-on†	6.05	5.14	4.84	4.54
MTA-406N-PC	4PDT	On-none-on	7.05	5.99	5.64	5.29
MTA-406P-PC	4PDT	On-off-on	7.55	6.42	6.04	5.66
MTA-406PA-PC	4PDT	On-on-on	8.95	7.61	7.16	6.71
MTA-106D-WW	SPDT	On-none-on	2.45	2.08	1.96	1.84
MTA-106E-WW	SPDT	On-off-on	2.95	2.51	2.36	2.21
MTA-206N-WW	DPDT	On-none-on	3.60	3.06	2.88	2.70
MTA-206P-WW	DPDT	On-off-on	4.10	3.49	3.28	3.08
MTA-306D-WW	3PDT	On-none-on	6.05	5.14	4.84	4.54
MTA-406N-WW	4PDT	On-none-on	7.85	6.67	6.28	5.89

*With white cap. †Momentary positions. ‡Usable as SP3T; wiring on request. §Rocker. ΣUL Listed E46765.


MSPM


MSP-105F


MPB

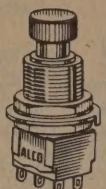

MPA-103D


MSPS-103C


MSP-103


MSPF-101B-PC


MSPF-101B


MPG


MPA-106

MSP SERIES MINIATURE PUSHBUTTON SWITCHES

MSP-105, MSP-205—Snap action. Rated 6 A, 125 VAC. Solid silver contacts and terminals. Bushing ¼"-40 with keyway. Black phenolic case. Life, 25,000 cycles. **MSP-103**—Economy, low pressure operation. Rated 1 A, 125 VAC. Silver-plated brass contacts and terminals. Plunger travel, .098". Bushing ¼"-40. Diameter .408". **MSPS-103C**—Similar to MSP-103, but smaller diameter, .310". Rated 0.5 A at 125 VAC.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MSP-105D	SPDT	Push on-off	$3.30	$2.81	$2.64	$2.48
MSP-105F	SPDT	Momentary	3.30	2.81	2.64	2.48
MSP-205N	DPDT	Push on-off	4.25	3.61	3.40	3.19
MSP-205R	DPDT	Momentary	4.25	3.61	3.40	3.19
MSP-103B	SPST	N.C., (Black)	1.45	1.23	1.16	1.09
MSP-103C	SPST	N.O., (Red)	1.45	1.23	1.16	1.09
MSP-103C-B	SPST	N.O., (Black)	1.45	1.23	1.16	1.09
MSP-103C-2	SPST	N.O., (Red)	1.55	1.32	1.24	1.16
MSPS-103B	SPST	N.C., (Black)	1.45	1.23	1.16	1.09
MSPS-103C	SPST	N.O., (Red)	1.45	1.23	1.16	1.09
MSPS-103C-B	SPST	N.O., (Black)	1.45	1.23	1.16	1.09

BUTTONS FOR MSP SERIES

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
C-12	Plastic button for MSP-105	$0.20	$0.14	$0.12	$0.11
C-13	Large plastic button for MSP-105	.25	.17	.15	.14
C-14	Small chrome button for MSP-105	.20	.14	.12	.11
C-14L	Large chrome button for MSP-105	.25	.17	.15	.14

MPB SERIES MINIATURE PUSHBUTTON SWITCHES

MPB-103 miniature momentary pushbuttons have over-travel to provide 3 A @ 125 VAC rating. Normally open types have snap-on .395" dia. button; normally closed types have black button.

Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
MPB-103B	SPST	N.C.	$1.75	$1.49	$1.40	$1.31
MPB-103C	SPST	N.O.	1.75	1.49	1.40	1.31

MSPF SERIES MOMENTARY PUSHBUTTON

Series features large button and 15-32 body. Allows choice of front or rear panel mounting. Unique contact design allows self-leveling, assuring minimum contact resistance. All models have epoxy seals on terminals. Choice of button color.

MSPF-101B	SPST	N.C. (Black)	$1.85	$1.57	$1.48	$1.39
MSPF-101C	SPST	N.O. (Red)	1.85	1.57	1.48	1.39
MSPF-101BC	2 Ckt.	N.O./N.C.*	2.25	1.91	1.80	1.69

*Specify color: 0—Black; 2—Red; 6—Blue; 9—White.

MAGNETIC REED PUSHBUTTON SWITCHES

SPST momentary for data processing equipment; ceramic magnets eliminate springs. Contacts are glass-encapsulated reeds for long life; plunger is keyed and non-rotating; metal case withstands abuse. Rated 100 mA at 50 VDC; resistance, 100 milliohms. Contact bounce, 1 msec; plunger travel, 5/64". Oper. force, 2 oz. Life, 10 million cycles.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
MSPM-101B*	NC; solder lugs	$5.15	$4.64	$4.64	$4.12
MSPM-101C†	NO; solder lugs	5.15	4.64	4.64	4.12
MSPM-101B-1*	NC; .110" terminal	5.15	4.64	4.64	4.12
MSPM-101C-1†	NO; .110" terminal	5.15	4.64	4.64	4.12
MSPM-101BP	Push-pull	5.25	4.73	4.73	4.20
MSPM-101CP	Push-pull	5.25	4.73	4.73	4.20
MSPM-101BS-1	NC; solder lug	4.95	4.46	4.46	3.96
MSPM-101CS-1	NO; solder lug	4.95	4.46	4.46	3.96
MSPM-101BS	NC; PC terminal	4.95	4.46	4.46	3.96
MSPM-101CS	NO; PC terminal	4.95	4.46	4.46	3.96

*Supplied with C-22 black button. †Supplied with C-22 red button. MSPM Series also accept C23 cap.

GREEN SERIES

MUSTANG PUSHBUTTONS

1⅛" bushing with solder lug terminals. PC suffix for PC terminals.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPG-106D	SPDT	Push on/off	$4.05	$3.44	$3.24	$3.04
MPG-106F	SPDT	Momentary	4.05	3.44	3.24	3.04
MPG-206N	DPDT	Push on/off	5.00	4.25	4.00	3.75
MPG-206R	DPDT	Momentary	5.00	4.25	4.00	3.75
MPG-306D	3PDT	Push on/off	6.30	5.36	5.04	4.73
MPG-306F	3PDT	Momentary	6.30	5.36	5.04	4.73
MPG-406N	4PDT	Push on/off	7.90	6.72	6.32	5.93
MPG-206N-PC	DPDT	Push on/off	5.20	4.42	4.16	3.90
MPG-206R-PC	DPDT	Momentary	5.20	4.42	4.16	3.90

Supplied with Black C-9 cap only.

SUBMINIATURE PUSHBUTTON SWITCHES

Subminiature pushbutton switch with one piece bushing and case construction. Current Rating: 3 amps @ 125 VAC D & F Series, 1 amp @ 125 VAC B & C Series. Supplied with black cap, C5.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPA-103B	SPST	N. C. Mom.	$1.65	$1.40	$1.32	$1.24
MPA-103C	SPST	N. O. Mom	1.65	1.40	1.32	1.24
MPA-103D	SPDT	Push on/off	2.95	2.51	2.36	2.21
MPA-103F	SPDT	Momentary	2.95	2.51	2.36	2.21
C-5	Small plastic cap blk, red, grn. or wht.		.10	.07	.06	.06
C-8	Large plastic cap blk, red, grn, or wht.		.10	.07	.06	.06

GREEN SERIES

MINIATURE PUSHBUTTONS

Supplied with black C-22 button.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPA-106D	SPDT	Push on/off	$3.40	$2.89	$2.72	$2.55
MPA-106F	SPDT	Momentary	3.40	2.89	2.72	2.55
MPA-206N	DPDT	Push on/off	4.35	3.70	3.48	3.26
MPA-206R	DPDT	Momentary	4.35	3.70	3.48	3.26
MPA-306D	3PDT	Push on/off	5.65	4.80	4.52	4.24
MPA-306F	3PDT	Momentary	5.65	4.80	4.52	4.24
MPA-406N	4PDT	Push on/off	7.25	6.16	5.80	5.44
MPA-406R	4PDT	Momentary	7.25	6.16	5.80	5.44
C-9	Colored cap—red, blue, pink, yel. or wht.		.12	.08	.07	.07

GREEN SERIES

MINIATURE WATERPROOF PUSHBUTTONS

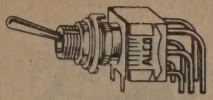
"O" rings inside bushing and at panel.

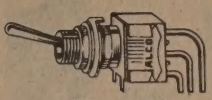
Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MPE-106D	SPDT	Push on/off	$3.95	$3.36	$3.16	$2.96
MPE-106F	SPDT	Momentary	3.95	3.36	3.16	2.96
MPE-206N	DPDT	Push on/off	4.90	4.17	3.92	3.68
MPE-206R	DPDT	Momentary	4.90	4.17	3.92	3.68
MPE-306D	3PDT	Push on/off	6.20	5.27	4.96	4.65
MPE-306F	3PDT	Momentary	6.20	5.27	4.96	4.65
MPE-406N	4PDT	Push on/off	7.80	6.63	6.24	5.85
MPE-406R	4PDT	Momentary	7.80	6.63	6.24	5.85

PLASTIC BUTTONS FOR MPA AND MPE SERIES

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
C-22†	Small button	$0.15	$0.10	$0.09	$0.08
C-23†	Large button	.20	.14	.12	.11
		1-99	100-249	250-499	500-999
KG-22AB	Grooved, black top	$0.45	$0.31	$0.27	$0.25
KG-22AR	Grooved, red top	.45	.31	.27	.25
KG-22AG	Grooved, green top	.45	.31	.27	.25

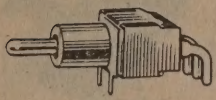
†Specify Red, Black, Green, Blue, Orange or Ivory.

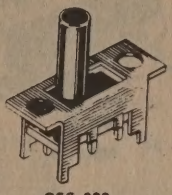

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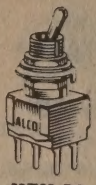

MTA-106D-VRA


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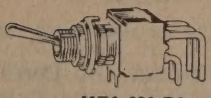

MDS-106-60, SFL Bezel


MTM-RA-SPDT


CSS-022


MTM-PC


MDS-206-50, SFL Bezel


MTA-206-RA

GREEN SERIES MINIATURE SHORT LEVER TOGGLE

0.27″ long toggle. PC terminals and ¼-40 threaded bushing.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MTM-106D-PC	SPDT	On-none-on	$2.25	$1.91	$1.80	$1.69
MTM-106E-PC	SPDT	On-off-on	2.75	2.34	2.20	2.06
MTM-106F-PC	SPDT	On-none-on†	2.85	2.42	2.28	2.14
MTM-206N-PC	DPDT	On-none-on	3.20	2.72	2.56	2.40
MTM-206P-PC	DPDT	On-off-on	3.70	3.15	2.96	2.78
MTM-206R-PC	DPDT	On-none-on†	3.80	3.23	3.04	2.85
MTM-206PA-PC	DPDT‡	On-on-on	4.40	3.74	3.52	3.30
MTM-306D-PC	3PDT	On-none-on	5.45	4.63	4.36	4.09
MTM-406N-PC	4PDT	On-none-on	7.05	5.99	5.64	5.29

†Momentary positions. ‡Usable as SP3T; wiring on request.

GREEN SERIES MINIATURE RIGHT-ANGLE SWITCHES WITH PC TERMINALS

MTM-RA types have 0.27″ long toggle and unthreaded bushing. **MTA-RA** and **MTA-VRA** types have 0.41″ long toggle and ¼-40 threaded bushing. All three types have right-angle PC terminals.

MTM-106D-RA	SPDT	On-none-on	$2.70	$2.30	$2.16	$2.03
MTM-106E-RA	SPDT	On-off-on	3.20	2.72	2.56	2.40
MTM-106F-RA	SPDT	On-none-on†	3.30	2.81	2.64	2.48
MTM-206N-RA	DPDT	On-none-on	4.10	3.49	3.28	3.08
MTM-206P-RA	DPDT	On-off-on	4.60	3.91	3.68	3.45
MTM-206R-RA	DPDT	On-none-on†	4.60	3.91	3.68	3.45
MTM-106D-VRA	SPDT	On-none-on	2.70	2.30	2.16	2.03
MTM-106E-VRA	SPDT	On-off-on	3.20	2.72	2.56	2.40
MTM-106F-VRA	SPDT	On-none-on†	3.30	2.81	2.64	2.48
MTM-206N-VRA	DPDT	On-none-on	4.10	3.49	3.28	3.08
MTM-206P-VRA	DPDT	On-off-on	4.60	3.91	3.68	3.45
MTM-206R-VRA	DPDT	On-none-on†	4.60	3.91	3.68	3.45
MTA-106D-RA	SPDT	On-none-on	2.75	2.34	2.20	2.06
MTA-106E-RA	SPDT	On-off-on	3.25	2.76	2.60	2.44
MTA-106F-RA	SPDT	On-none-on†	3.35	2.85	2.68	2.51
MTA-206N-RA	DPDT	On-none-on	4.15	3.53	3.32	3.11
MTA-206P-RA	DPDT	On-off-on	4.65	3.95	3.72	3.49
MTA-206R-RA	DPDT	On-none-on†	4.75	4.04	3.80	3.56
MTA-106D-VRA	SPDT	On-none-on	2.75	2.34	2.20	2.06
MTA-106E-VRA	SPDT	On-off-on	3.25	2.76	2.60	2.44
MTA-106F-VRA	SPDT	On-none-on†	3.35	2.85	2.68	2.51
MTA-206N-VRA	DPDT	On-none-on	4.15	3.53	3.32	3.11
MTA-206P-VRA	DPDT	On-off-on	4.65	3.95	3.72	3.49
MTA-206R-VRA	DPDT	On-none-on†	4.75	4.04	3.80	3.56

†Momentary positions. Color caps available. Specify model and color. See Hardware.

MINIATURE ROCKER AND PADDLE WITH SNAP-IN MOUNTING

Designed to snap into a rectangular panel cutout. No mounting hardware is required. Mod-styled levers are accentuated by use of attractive mating bezels. Choice of colors available. Features same as MST Series.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MDS-106D-50(*)	SPDT	On-none-on	$2.55	$2.17	$2.04	$1.91
MDS-106E-50(*)	SPDT	On-off-on	3.05	2.59	2.44	2.29
MDS-106F-50(*)	SPDT	On-none-on†	3.15	2.68	2.52	2.36
MDS-106D-60(*)	SPDT	On-none-on	2.55	2.17	2.04	1.91
MDS-106E-60(*)	SPDT	On-off-on	3.05	2.59	2.44	2.29
MDS-106F-60(*)	SPDT	On-none-on†	3.15	2.68	2.52	2.36
MDS-206N-50(*)	DPDT	On-none-on	3.40	2.89	2.72	2.55
MDS-206P-50(*)	DPDT	On-off-on	3.90	3.32	3.12	2.93
MDS-206R-50(*)	DPDT	On-none-on†	4.00	3.40	3.20	3.00
MDS-206N-60(*)	DPDT	On-none-on	3.40	2.89	2.72	2.55
MDS-206P-60(*)	DPDT	On-off-on	3.90	3.32	3.12	2.93
MDS-206R-60(*)	DPDT	On-none-on†	4.00	3.40	3.20	3.00

*Specify color: (0)—Black; (2)—Red; (8)—Gray; (9)—White.
†Momentary position.

CST SERIES TOGGLE SWITCHES

Low-cost baton lever toggles. DPDT, 3 mA at 125 VAC.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
CST-022	DPDT	$1.05	$0.79	$0.71	$0.66
CST-022-1	DPDT	1.25	.94	.85	.79
CST-022N	DPDT	1.40	1.05	.95	.88
CST-022S	DPDT	1.40	1.05	.95	.88
CST-022RN	DPDT	1.45	1.09	.99	.91
CST-022RS	DPDT	1.45	1.09	.99	.91
CST-023	DP3T	1.50	1.13	1.02	.95
CST-023SA	DP3T	1.55	1.16	1.05	.98
CST-023TA	DP3T	1.55	1.16	1.05	.98
CST-042N	4PDT	1.80	1.35	1.22	1.13
CST-042S	4PDT	1.80	1.35	1.22	1.13
CST-042RN	4PDT	1.85	1.39	1.26	1.17
CST-042RS	4PDT	1.85	1.39	1.26	1.17
CST-043	4P3T	1.95	1.46	1.33	1.23
CST-043SA	4P3T	2.00	1.50	1.36	1.26
CST-043TA	4P3T	2.00	1.50	1.36	1.26
CST-062N	6P2T	2.10	1.58	1.43	1.32
CST-062S	6P2T	2.10	1.58	1.43	1.32

SPLASHPROOF SEALS

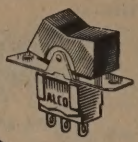
Seals are made for toggle and pushbutton switching applications. They protect against contaminants such as dirt, gas and liquids. Flexible neoprene is black with choice of black or nickel mount.

Alcoswitch No.	Mount Color	Size	Net Each, Lots of 1-24	25-99	100-499	500-999
B-1048	Black	10-48 Toggle	$1.15	$1.06	$0.93	$0.84
B-210	Nickel	¼-40 Toggle	.95	.87	.77	.69
B-221	Black	¼-40 Toggle	1.15	1.06	.93	.84
B-1440	Black	¼-40 Toggle	1.40	1.29	1.13	1.02
B-588	Nickel	15/32-32 Toggle	1.05	.97	.85	.77
B-226	Black	15/32-32 Toggle	1.35	1.24	1.09	.99
B-1532	Black	15/32-32 Toggle	1.45	1.33	1.17	1.06
BP-1048	Black	10-48 Pushbutton	1.20	1.10	.97	.88
BP-190	Nickel	¼-40 Pushbutton	.95	.87	.77	.69
BP-201	Black	¼-40 Pushbutton	1.25	1.15	1.01	.91
BP-1440	Black	¼-40 Pushbutton	1.35	1.24	1.09	.99
BP-589	Nickel	15/32-32 Pushbutton	1.25	1.15	1.01	.91
BP-590	Black	15/32-32 Pushbutton	1.45	1.33	1.17	1.06
BP-1532	Black	15/32-32 Pushbutton	1.55	1.43	1.26	1.13

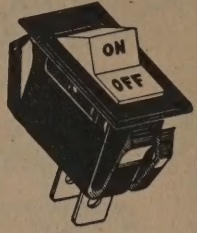

MSS-104D-RA


MSS-104D

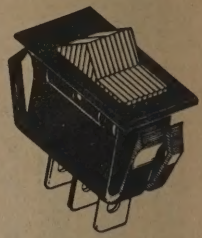

MSS-104D-1



MHL



XR1


XRL110



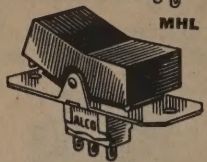
MLD-206N-80



MLD-106D-70



MNL



MRL-30

MINIATURE PC SLIDE SWITCHES

Instrument grade miniature slide switches designed for printed circuit board mounting. Primarily for use in programming, test apparatus and other instrumentation applications. All models available in SPDT and DPDT except the right angle models (**RA**). Rated at 2 amps @ 230 VAC and 4 amps @ 115 VAC. "**G**" suffix indicates gold plated terminals.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
MSS-104D	1 Pole, 2 Pos., upright	$1.55	$1.16	$1.05	$0.98
MSS-104D-RA	1 Pole, 2 Pos., right angle	1.70	1.28	1.16	1.07
MSS-104D-1	1 Pole, 2 Pos., flush	1.55	1.16	1.05	.98
MSS-104E	1 Pole, 2 Pos., upright	1.85	1.39	1.26	1.17
MSS-204N	2 Poles, 2 Pos., upright	2.15	1.61	1.46	1.35
MSS-204N-RA	2 Poles, 2 Pos., right ang.	2.55	1.91	1.73	1.61
MSS-204N-1	2 Poles, 2 Pos., flush	2.15	1.61	1.46	1.35
MSS-204P	2 Poles, 2 Pos., upright	2.65	1.99	1.80	1.67
MSS-104DG	1 Pole, 2 Pos., upright	1.75	1.31	1.19	1.10
MSS-104DG-RA	1 Pole, 2 Pos., r ght angle	1.95	1.46	1.33	1.23
MSS-104DG-1	1 Pole, 2 Pos., flush	1.75	1.31	1.19	1.10
MSS-204NG	2 Poles, 2 Pos., upright	2.65	1.99	1.80	1.67
MSS-204NG-RA	2 Poles, 2 Pos., right ang.	3.05	2.29	2.07	1.92
MSS-204NG-1	2 Poles, 2 Pos., flush	2.65	1.99	1.80	1.67

GREEN SERIES MLD SERIES ROCKER AND PADDLE SWITCHES

Miniature rocker or lever switches with 6 Amp current carrying capacity. Mounts without hardware with clips. Case material is high temperature DAP. Gold flash contacts and terminals. Actuators available in red, black, grey, green, blue, orange or yellow. Please specify.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MLD-106D-70	SPDT	On-none-on	$2.65	$2.25	$2.12	$1.99
MLD-106D-80	SPDT	On-none-on	2.65	2.25	2.12	1.99
MLD-106E-70	SPDT	On-off-on	3.15	2.68	2.52	2.36
MLD-106E-80	SPDT	On-off-on	3.15	2.68	2.52	2.36
MLD-106F-70	SPDT	On-none-(on)	3.25	2.76	2.60	2.44
MLD-106F-80	SPDT	On-none-(on)	3.25	2.76	2.60	2.44
MLD-206N-70	DPDT	On-none-on	3.50	2.98	2.80	2.63
MLD-206N-80	DPDT	On-none-on	3.50	2.98	2.80	2.63
MLD-206P-70	DPDT	On-off-on	4.00	3.40	3.20	3.00
MLD-206P-80	DPDT	On-off-on	4.00	3.40	3.20	3.00
MLD-206R-70	DPDT	On-none-(on)	4.10	3.49	3.28	3.08
MLD-206R-80	DPDT	On-none-(on)	4.10	3.49	3.28	3.08

-70 indicates rocker type; **-80** indicates lever type.

GREEN SERIES MINIATURE ROCKERS AND PADDLES

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MRL-106D-30/40	SPDT	On-none-on	$2.75	$2.34	$2.20	$2.06
MRL-106E-30/40	SPDT	On-off-on	3.25	2.76	2.60	2.44
MRL-106F-30/40	SPDT	On-none-on†	3.35	2.85	2.68	2.51
MRL-206N-30/40	DPDT	On-none-on	3.60	3.06	2.88	2.70
MRL-206P-30/40	DPDT	On-off-on	4.10	3.49	3.28	3.08
MRL-206R-30/40	DPDT	On-none-on†	4.20	3.57	3.36	3.15
MRL-306D-30/40	3PDT	On-none-on	5.75	4.89	4.60	4.31
MRL-406N-30/40	4PDT	On-none-on	7.25	6.16	5.80	5.44

-30 denotes rocker type; **-40** denotes lever type.

GREEN SERIES MHL MINIATURE ROCKER WITH MOUNTING BRACKET

Small rocker actuator mounted on basic MT Toggle Switch body.

MHL-106D-10(*)	SPDT	On-none-on	$2.75	$2.34	$2.20	$2.06
MHL-106F-10(*)	SPDT	On-none-on†	3.35	2.85	2.68	2.51
MHL-206N-10(*)	DPDT	On-none-on	3.60	3.06	2.88	2.70
MHL-206R-10(*)	DPDT	On-none-on†	4.20	3.57	3.36	3.15
MHL-306D-10(*)	3PDT	On-none-on	5.75	4.89	4.60	4.31
MHL-306F-10(*)	3PDT	On-none-on†	6.35	5.40	5.08	4.76
MHL-406N-10(*)	4PDT	On-none-on	7.25	6.16	5.80	5.44
MHL-406R-10(*)	4PDT	On-none-on†	7.85	6.67	6.28	5.89

†Indicates momentary position. * Specify color: **0**—Black; **2**—Red; **5**—Green; **6**—Blue; **8**—Gray; **9**—White.

ROCKER AND LEVER SWITCHES

MNL—Illuminated rocker switches feature convenient front-panel lamp replacement; snaps into .765" x .756" hole. Rated 6 amps at 125 VAC. Supplied with one red, green, amber or white lens cap; specify. For use with Alco No. 378 (6.3 V), 362 (14.0 V) or 388SC (28.0 V) lamps.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
MNL-206N	DPDT, on-none-on	$5.35	$4.55	$4.28	$4.01
MNL-206P	DPDT, on-off-on	5.85	4.97	4.68	4.39
MNL-206R	DPDT, none-on-on*	5.95	5.06	4.76	4.46

Alcoswitch No.	Description	Net Each, Lots of 10 Min.	20-90	100-490	500-990
378	Lamp: 6.3 V, .2 A	$0.47	$0.42	$0.38	$0.35
362	Lamp: 14 V, .08 A	.47	.42	.38	.35
399	Lamp: 28 V, .04 A	.47	.42	.38	.35

ROCKER AND PADDLE SWITCHES

Compact miniature rocker and paddle switches mount without hardware. Snap-fit into cutouts in panels. Will carry loads up to 10 Amps at 125 VAC. Select from a wide assortment to suit your application. Special legends available on quantity orders.

SINGLE-POLE ROCKER—XR1 SERIES

Alcoswitch No.	Application	Net Each, Lots of 1-24	25-99	100-499	500-999
§XR110A-	On-none-off	$1.60	$1.12	$0.85	$0.72
XR110D-	On-none-on	1.60	1.12	.85	.72
XR110E-	On-off-on	1.60	1.12	.85	.72
XR110F-	On-none-on*	1.90	1.33	1.01	.86

SINGLE-POLE PADDLE—XP1 SERIES

†XP110A-	On-none-off	$1.60	$1.12	$0.85	$0.72
XP110D-	On-none-on	1.60	1.12	.85	.72
XP110E-	On-off-on	1.60	1.12	.85	.72
XP110F-	On-none-on*	1.90	1.33	1.01	.86

DOUBLE-POLE ROCKER—XR2 SERIES

§XR210K	One-none-off	$2.70	$1.89	$1.43	$1.22
XR210N	On-none-on	2.70	1.89	1.43	1.22
XR210P	On-off-on	2.70	1.89	1.43	1.22
XR210R	On-none-on*	3.30	2.31	1.75	1.49

SINGLE-POLE LIGHTED ROCKER—XRL1 SERIES

XRL110A-	On-none-off	$3.20	$2.24	$1.70	$1.44

SINGLE-POLE LIGHTED PADDLE—XPL1 SERIES

XPL110A-	On-none-off	$3.20	$2.24	$1.70	$1.44

DOUBLE-POLE LIGHTED ROCKER—XRL2 SERIES

XRL210A-	On-none-off	$3.60	$2.52	$1.91	$1.62
XRL210D-	On-none-on	3.70	2.59	1.96	1.67
XRL210F-	On-none-on*	3.90	2.73	2.07	1.76

*Momentary. †Also available with ON-OFF imprint on paddle. Please specify. §Also available with ON-OFF imprint on rocker. Please specify.

To identify the switch being ordered, it is necessary to specify colors by adding the appropriate code number suffix shown below:
00—Black body, Black actuator.
02—Black body, Red actuator.
09—Black body, White actuator.
90—White body, Black actuator.
92—White body, Red actuator.

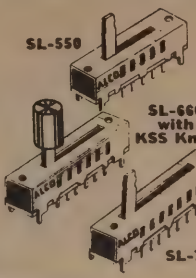
For lighted models, add color code number:
04—Black body, Amber lever
99—White body, Clear lever
004—Black body, Black lever, Amber lens
024—Black body, Red lever, Amber lens
094—Black body, White lever, Clear lens
909—White body, Black lever, Clear lens
929—White body, Red lever, Clear lens


MSS-4200


MSS-2250R


MSSA-1450


MSSA-1450R

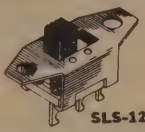

SL-550

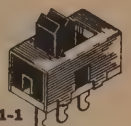
SL-660 with KSS Knob

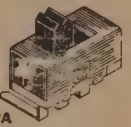
SL-770


KSS

SS-110-13


SLS-120


SLS-121-1


SLS-121-RA

MINIATURE PRINTED CIRCUIT SLIDE SWITCHES

Mount directly to PC board. Rated 300 mA, 125 VAC. Life, 15,000 cycles at rated load. Silver-plated contacts except where noted gold (gold-plated nickel); movable contacts beryllium plated brass. MSS-4300, -6200, and larger sizes, 4-40 screw holes; others tab.

Alcoswitch No. MSS-	Contacts	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
1200R	SPDT	Right angle	$0.95	$0.65	$0.57	$0.49
1200RG	SPDT	Right angle, gold	1.30	.88	.78	.68
1300	SP3T	Upright	.95	.65	.57	.49
1300R	SP3T	Right angle	1.05	.71	.63	.55
1400	SP4T	Upright	1.00	.68	.60	.52
2200	DPDT	Upright	.95	.65	.57	.49
2200G	DPDT	Upright, gold	1.65	1.12	.99	.86
2220	DPDT	Upright, .197" lever	.95	.65	.57	.49
2220G	DPDT	Upright, .197" lever, gold	1.65	1.12	.99	.86
2225	DPDT	Upright, .250" lever	.95	.65	.57	.49
2225G	DPDT	Upright, .250" lever, gold	1.65	1.12	.99	.86
2250	DPDT	Upright, long lever	.95	.65	.57	.49
2250G	DPDT	Upright, long lever, gold	1.65	1.12	.99	.86
2250R	DPDT	Right angle, long lever	1.05	.71	.63	.55
2250RG	DPDT	Rt. angle, lg. lever, gold	1.75	1.19	1.05	.91
2450	DP4T	Upright, long lever	1.35	.92	.81	.70
4200	4PDT	Upright	1.10	.75	.66	.57
4200G	4PDT	Upright, gold	2.55	1.73	1.53	1.33
4250	4PDT	Upright, long lever	1.10	.75	.66	.57
4200R	4PDT	Right angle	1.20	.82	.72	.62
4200RG	4PDT	Right angle, gold	2.65	1.80	1.59	1.38
4300	4P3T	Upright	1.45	.99	.87	.75
4300G	4P3T	Upright, gold	2.90	1.97	1.74	1.51
4335	4P3T	Upright, .365" lever	1.45	.99	.87	.75
4300R	4P3T	Right angle	1.55	1.05	.93	.81
4300RG	4P3T	Right angle, gold	3.15	2.14	1.89	1.64
4350R	4P3T	Right angle, long lever	1.55	1.05	.93	.81
4350RG	4P3T	Rt. angle, lg. lever, gold	3.20	2.18	1.92	1.66
6200	6PDT	Upright	1.50	1.02	.90	.78
6200G	6PDT	Upright, gold	3.55	2.41	2.13	1.85
6300	6P3T	Upright	1.60	1.09	.96	.83
6300G	6P3T	Upright, gold	3.85	2.62	2.31	2.00
6350	6P3T	Upright, long lever	1.60	1.09	.96	.83
6350R	6P3T	Right angle, long lever	1.70	1.16	1.02	.88
8300	8P3T	Upright	2.25	1.53	1.35	1.17
10300	10P3T	Upright	2.50	1.70	1.50	1.30
12300	12P3T	Upright	2.85	1.94	1.71	1.48

MSSA PC SLIDE SWITCHES

Expanded line of 1, 2, 3 and 4 pole PC mountable slide switches. Rated 300 mA at 125 VAC. Life Expectancy, 15,000 cycles at rated load. Available in vertical and right-angle models. Switches feature positive wiping and have "Make-Before-Break" action. Contacts are silver or gold plated.

MSSA-						
1350	SP3T	Upright	$1.15	$0.78	$0.69	$0.60
1350G	SP3T	Upright, gold	1.70	1.16	1.02	.88
1350R	SP3T	Right angle	1.25	.85	.75	.65
1350RG	SP3T	Right angle, gold	1.80	1.22	1.08	.94
1450	SP4T	Upright	1.20	.82	.72	.62
1450G	SP4T	Upright, gold	1.80	1.22	1.08	.94
1450R	SP4T	Right angle	1.30	.88	.78	.68
1450RG	SP4T	Right angle, gold	1.90	1.29	1.14	.99
2350	DP3T	Upright	1.30	.88	.78	.68
2350G	DP3T	Upright, gold	2.35	1.60	1.41	1.22
2350R	DP3T	Right angle	1.40	.95	.84	.73
2350RG	DP3T	Right angle, gold	2.45	1.67	1.47	1.27
2450	DP4T	Upright	1.35	.92	.81	.70
2450G	DP4T	Upright, gold	2.50	1.70	1.50	1.30
2450R	DP4T	Right angle	1.45	.99	.87	.75
2450RG	DP4T	Right angle, gold	2.60	1.77	1.56	1.35
3350	3P3T	Upright	1.45	.99	.87	.75
3350G	3P3T	Upright, gold	3.00	2.04	1.80	1.56
3350R	3P3T	Right angle	1.55	1.05	.93	.81
3350RG	3P3T	Right angle, gold	3.10	2.11	1.86	1.61
3450	3P4T	Upright	1.50	1.02	.90	.78
3450G	3P4T	Upright, gold	3.20	2.18	1.92	1.66
3450R	3P4T	Right angle	1.60	1.09	.96	.83
3450RG	3P4T	Right angle, gold	3.30	2.24	1.98	1.72
4350	4P3T	Upright	1.60	1.09	.96	.83
4350G	4P3T	Upright, gold	3.70	2.52	2.22	1.92
4350R	4P3T	Right angle	1.70	1.16	1.02	.88
4350RG	4P3T	Right angle, gold	3.80	2.58	2.28	1.98
4450	4P4T	Upright	1.65	1.85	.99	.86
4450G	4P4T	Upright, gold	3.55	2.41	2.13	1.85
4450R	4P4T	Right angle	1.75	1.19	1.05	.91
4450RG	4P4T	Right angle, gold	3.65	2.48	2.19	1.90

SL SERIES MULTI-POSITION SLIDE SWITCH WITH PC TERMINALS

Designed specifically for PC applications. Save space, installation time and wiring errors. Substitute for rotary switches and other ideal uses. Feature a ball detent for positive tactile feel. Contacts are self-cleaning and terminals are sealed for added protection. Order KSS-20 knobs separately, as shown below. Internal construction is similar to the MSS Series.

Alcoswitch No.	Type	Net Each, Lots of 1-24	25-99	100-499	500-999
SL-220	2 Positions	$0.90	$.61	$.54	$.45
SL-330	3 Position	1.10	.75	.66	.55
SL-550	5 Position	1.25	.85	.75	.63
SL-660	6 Position	1.40	.95	.84	.70
SL-770	7 Positions	1.55	1.05	.93	.78
SL-880	8 Positions	1.75	1.19	1.05	.88
KSS-20	Natural Aluminum Knob	.35	.32	.30	.28

SS SERIES SLIDE SWITCHES

Designed for printed circuit boards. Offer operational versatility, high density, light weight, and a broad variety of control functions. Rated to carry 300 mA at 30 VDC. Make before break. Have silver contacts, sealed terminals. For use in matrix applications, adjustable voltage dividers, x-y positioning, and others.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SS-110-13	Single pole, 10+3 pos.	$2.75	$1.87	$1.65	$1.43
SS-111	Single pole, 11 positions	2.00	1.36	1.20	1.04
SS-24	Double pole, 4 positions	1.35	.92	.81	.70
SS-110-111 KNOBS					
KSS-1A	Natural, small, less hairline	$0.35	$0.32	$0.30	$0.28
KSS-1B	Black, small, less hairline	.35	.32	.30	.28
KSS-2A	Natural, large, less hairline	.35	.32	.30	.28
KSS-2B	Black, large less hairline	.35	.32	.30	.28
KSS-3A	Natural, large, double hairline	.45	.41	.38	.36
KSS-3B	Black, large, double hairline	.45	.41	.38	.36

SLS BOBBIN CONTACT MINIATURE SLIDE SWITCHES

New family of SLS Bobbin Contact switches provide improved tactile feel. More positive detent. Rated 250 mA at 125 VAC; 150 mA at 12 VDC. Silver plated contacts and terminals.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SLS-121-PC	SPDT, w/o tabs, w/PC terminals	$0.65	$0.44	$0.39	$0.33
SLS-121-RA	SPDT, w/o tabs, w/right angle term.	.75	.51	.45	.38
SLS-131-PC	SP3P, w/o tabs, w/PC terminals	.85	.58	.51	.43
SLS-131-RA	SP3P, w/o tabs, w/right angle term.	1.00	.68	.60	.50
SLS-141-PC	SP4P, w/o tabs, w/PC terminals	1.10	.75	.66	.55
SLS-141-RA	SP4P, w/o tabs, w/right angle term.	1.20	.82	.72	.60
SLS-151-PC	SP5P, w/o tabs, w/PC terminals	1.30	.88	.78	.65
SLS-151-RA	SP5P, w/o tabs, w/right angle term.	1.40	.95	.84	.70
SLS-121-1	SPDT, w/o tabs, w/PC terminals	.60	.41	.36	.30
SLS-121	SPDT, w/tabs, panel mounted	.65	.49	.39	.33

SLS MINIATURE SLIDE SWITCHES

Economical miniature slide switch, 5/16" wide and approximately 3/4" long. Rated at 0.5 amps @ 125 VAC except 121M series, 0.3 amps @ 125 VAC; -130 and -240 series, .25 amps @ 125 VAC.

SLS-120	SPDT, w/Tabs	$0.55	$0.37	$0.33	$0.28
SLS-120-1	SPDT, w/o Tabs	.55	.37	.33	.28
SLS-130-PC	SP3P, w/o Tabs, w/PC terminals	.85	.58	.51	.43
SLS-220	DPDT, w/Tabs	.70	.48	.42	.35
SLS-220-1	DPDT, w/o Tabs	.70	.48	.42	.35
SLS-240-PC	DP4P, w/o Tabs, w/PC terminals	1.20	.82	.72	.60





GT-20

ALCOSWITCH ACCESSORIES

DECORATIVE MOUNTING NUTS

"Perfect Fit" nuts are blind decorative type; secure hand tight on bushing and tighten back-up nut behind panel with wrench.

Alcoswitch No.	Size	Description	Net Ea., Lots of 25-99	100-499	500-999
N-1	¼-40	Standard knurl	$.05	$.05	$.04
N-1A	¼-40	"Perfect-Fit" knurl	.09	.09	.08
N-1A-B	¼-40	"Perfect-Fit" knurl	.09	.09	.08
N-1B	15/32″	"Perfect-Fit" knurl	.14	.12	.11
N-1C	⅜″	"Perfect-Fit" knurl	.14	.12	.11
N-2	¼-40	Standard hex nut	.05	.05	.04
N-3	¼-40	Decorative mtg. nut	.10	.09	.08
N-40	¼-40	Dress mounting nut, matte	.17	.15	.14
N-43	¼-40	Dress mounting nut, bright chr.	.17	.15	.14
MAN-1*	.....	Mounting adapter nut	.40	.32	.24

*Quantities: 1-24, 25-99, 100-999.

SWITCH PLATES

Stylish modern anodized aluminum switch plates identify switching functions. SPA-31 through -33, ⅞″ x ⅜″. SPA-41 through 43, 1⅛″ x 1 1/16″. SLPA-43, 1¼″ x 15/32″.

Alcoswitch No.	Legends	Use With	Net per Pkg., Lots of 1-99	100-499	500-999
SPA-31	On-on	¼″ d. switch	$0.20	$0.12	$0.11
SPA-32	On-off	¼″ d. switch	.20	.12	.11
SPA-33	Power-off	¼″ d. switch	.20	.12	.11
SPA-41	On-on	¼″ d. switch	.22	.13	.12
SPA-42	On-off	¼″ d. switch	.22	.13	.12
SPA-43	Power-off	¼″ d. switch	.22	.13	.12
SLPA-43	Power-off	¼″ d. switch & ⅜″ d. lamp	.26	.16	.14

ALUMINUM SWITCH PLATES—CARDED PACS OF 5

Alcoswitch No.	Legends	Use With	Net per Pkg., Lots of 1-99	100-499	500-999
SPA-31/10	On-on	¼″ d. switch	$2.00	$1.20	$1.10
SPA-32/10	On-off	¼″ d. switch	2.00	1.20	1.10
SPA-33/10	Power-off	¼″ d. switch	2.00	1.20	1.10
SPA-41/10	On-on	¼″ d. switch	2.20	1.32	1.21
SPA-42/10	On-off	¼″ d. switch	2.20	1.32	1.21
SPA-43/10	Power-off	¼″ d. switch	2.20	1.32	1.21
SLPA-43/10*	Power-off	¼″ d. switch & ⅜″ d. lamp	2.60	1.89	1.56

*Quantities: 1-9, 10-49, 50-99.

AC LINE MONITOR

The GT33 Line Monitor is a safe/Power-On panel assembly designed to give equipment operators an indication of a potential electrical shock hazard when there is a malfunction at the power source.

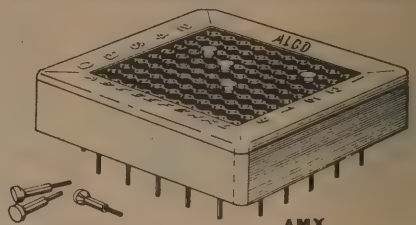
Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
GT33	AC Line Monitor	$3.95	$3.36	$2.88	$2.45

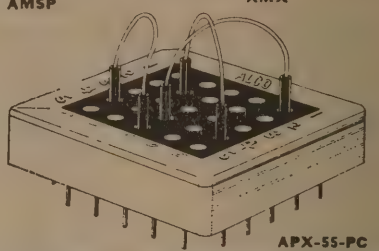
GROUNDED 115 VAC OUTLET TESTER

The GT-20 tester tells you if your AC outlets are safely grounded. Amber lights show if outlet is O.K. Red light indicates reversed polarity, faulty connections or absent grounds. High-impact case. For home, shop, campers, electricians, maintenance men, etc.

Alcoswitch No.	Description	Net Each, Lots of 1-23	24-59	60-239
GT-20	Grounded outlet tester	$7.95	$5.30	$4.77

AMX PROGRAMMABLE MATRIX BOARDS





APX-55-PC

The AMX-1010 offers a reliable and economical micro-miniature 100 point program matrix; 200 precision machined beryllium copper (Holtite) contacts, fully gold plated, ensures low resistance connections; gold plated shorting pins allow connection between any X-axis (1-10) and Y-axis (A-K). Contacts and pins are spaced at 0.1″ centers. A range of programming pins or diode plugs are available. Contacts rated 30 VDC.

Alcoswitch No.	Description	Net Each, Lots of† 1-99	100-499	500-999
AMX-1010†	10 x 10 Matrix 1/10 shorting pins	$19.95	$16.96	$15.56
AMX-T	Pin removal tool	3.95	3.36	3.08
AMSP	Shorting pin	.19	.16	.15
AMSP(*)	Colored shorting pin	.24	.20	.19
AMDF	Diode pin, forward	1.35	1.15	1.05
AMDR	Diode pin, reverse	1.35	1.15	1.05

*Specify color: (0)—Black; (2)—Red; (3)—Orange; (5)—Green; (6)—Blue; (9)—White. †No. **AMX-1010—Net Each, Lots of: 1-24, 25-49, 50-99.**

APX-55 PATCHBOARD MATRIX

The APX-55 is a sub-miniature (5 x 5) patchboard matrix providing up to 25 patch points. Three specific models offer a choice of termination, including PC, wirewrap and turret; the later for conventional wiring use. Mounts on PC board. Patch points and termination are spaced 0.2″ apart. Four 2″ jumper cables are provided with each matrix.

Alcoswitch No.	Description	Net Each, Lots of† 1-24	25-49	50-99	100-499
APX-55-PC	5 x 5 Patchboard, PC	$8.45	$7.18	$6.59	$5.92
APX-55-WW	5 x 5 Patchboard, wirewrap	9.95	8.46	7.76	6.97
APX-55T	5 x 5 Patchboard, turret	11.95	10.16	9.32	8.37
APJ-2†	Dual-pin Teflon jumper; 2″	.42	.36	.33	....
APJ-4†	Dual-pin Teflon jumper; 4″	.42	.36	.33	....
APJ-6†	Dual-pin Teflon jumper; 6″	.42	.36	.33	....

†APJ- jumpers—**Net Each, Lots of: 1-99, 100-499, 500-999.**

LOGIC PROBES AND MONITORS



Two new logic probes that function as a level detector, pulse detector and pulse stretcher/memory probe. Hi-speed Model 3100A probe gives instant indication of circuit conditions. Captures one-shot and low-rep-rate impulses, even those barely visible on fast scopes. Economy version, Model 3200A contains all features of deluxe unit except pulse stretch and memory. Provides instant indication of TTL/DTL or CMOS/HTL circuits. No batteries or cards required.

Alcoswitch No.	Description	Net Each, Lots of 2-9	10-24	25-Up
3100A	Hi-speed probe w/ 3 LEDs	$47.45	$44.96	$42.46
3200A	Economy probe w/2 LEDs	27.50	26.06	24.61


T2010


T2020


T2030


T2045


T2050


T2065


T2250


550


410

SERIES 2000 MINIATURE OIL TIGHT CONTROL UNITS

Series 2000 Oil Tight Controls: ⅞" dia. bushings; "Snap-Bloc" contact mounting. Operator heads have O-ring sealed action, colored buttons and decorative chrome ring nuts. Snap-on contact blocks may be stacked for multiple circuit applications. Operators and contact blocks must be ordered separately.

Series 2000 Operators: Choice of flush guard (T2010) or extended button (T2020) momentary types, long flush guard (T2030) push-on/push-off type, or mushroom head style; momentary (T2050) or push-on/push-off (T2045) type.

Series 2000 Contact Blocks: No hardware needed to mount blocks on operators; just snap on for positive retention. 400-group models are rated 10 A @ 600 VAC, nominal; 500-group types rated 5 A @ 300 VAC, nominal. UL and CSA listed. Choice of normally open (N.O.) plus normally closed (N.C.), or either N.O. or N.C. alone. Double break contacts. Heavy duty screw type terminals.

Alcoswitch No.	Description	Net Ea., Lots of 1-9	10-99	100-499
	OPERATORS			
T2010-(*)	Momentary, flush guard	$3.95	$3.56	$3.16
T2020-(*)	Momentary, extended button	3.95	3.56	3.16
T2045-(†)	Maintained, mushroom head	7.35	6.62	5.88
T2050-(†)	Momentary, mushroom head	5.25	4.73	4.20
T2065-2	Push set, turn to reset, red	8.95	8.06	7.16
T2250	2-pos. maintained, key-lock	12.45	11.21	9.96
	CONTACT BLOCKS			
410	N.O.—N.C., 600 V	$4.75	$4.28	$3.80
440	N.C., 600 V	2.45	2.21	1.96
450	N.O., 600 V	2.45	2.21	1.96
510	N.O.—N.C., 300 V	4.20	3.78	3.36
540	N.C., 300 V	2.25	2.03	1.80
550	N.O., 300 V	2.25	2.03	1.80

*Specify color; 0—black, 2—red, 5—green.
†Specify color; 0—black, 2—red, 3—orange.

MINIATURE MOTOR START POWER SWITCHES

Oil-tight pushbutton switches offer compact size, flexibility and low cost. Mount in 1" hole, providing savings up to 60% less panel space. Positive double-break silver contacts rated to carry 6 amps, 230 VAC. Supplied with single (NO-NC) block; additional (NO-NC) contact block also available to convert switches to double pole. Metal enclosures available on request. Three way selector switch has a bar knob with pointer, available in black only.

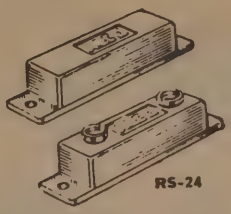
Alcoswitch No.	Description	Net Each, Lots of 1-9	10-99	100-499	500-999
SW-251	Standard button	$6.40	$5.12	$4.80	$4.16
SW-251S-2	Selector, NO-none-NC	8.00	6.40	6.00	5.20
SW-251S-3	Selector, NO-off-NC	8.00	6.40	6.00	5.20
SU-251	NO-NC block	3.90	3.12	2.93	2.54
C-251-OO	On-Off buttons	.65	.52	.49	.42
C-251-SS	Stop-start buttons	.60	.48	.45	.39
C-251-UD	Up-down btns., pair	.60	.48	.45	.39
C-251‖	Standard button	.20	.16	.15	.13
C-251D§	Mushroom button	1.10	.88	.83	.72
C-251L§	Long button	.35	.28	.26	.23

§Spare button for 251 Series; specify red or green.

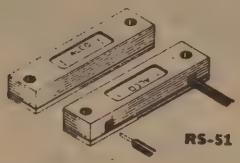
PROXIMITY MAGNETIC SWITCHES

Uses replaceable dry reed switch. Reliable, long life (over 5 million operations). Alnico V magnet actuates within 1". Rated 0.5 A break, 1.0 A carry.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-249	250-499
RS-24-NO	Norm. open (apart)	$4.10	$3.08	$2.79	$2.58
RS-24-NC	Norm. closed (apart)	4.30	3.23	2.92	2.71


RS-24


RS-11


RS-51


SW-251

MINIATURE PROXIMITY MAGNETIC SWITCHES

Dry reed switches RS-11-NO and RS-11-NC actuated by Alnico V magnet within .39". Has 8" leads. Rated .15 A break, .5 A carry at 50 VDC; 200 VDC breakdown. Dry reed switches RS-51-NO and RS-51-NC actuated by Alnico V magnet within 7/16". Rated .5 A at 100 VDC, 125 VAC. Life, 10 million cycles. Size, 1.102" x .335".

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-249	250-499
RS-11-NO	Norm. open (apart)	$3.40	$2.55	$2.31	$2.14
RS-11-NC	Norm. closed (apart)	4.10	3.08	2.79	2.58
RS-51-NO	Norm. open (apart)	2.25	1.69	1.53	1.42
RS-51-NC	Norm. closed (apart)	2.65	1.99	1.80	1.67


STV-205


SPV-205

FULLY INSULATED TOGGLE SWITCHES

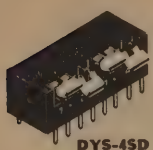
New Alco power switches rated 5 A @ 125 VAC, 3 A @ 250 VAC. Colorful molded flat contour levers and dress nuts combined with rugged plastic bushing to provide 2000 volt RMS insulation. Positive snap action design. Dual purpose terminals accept 2 No. 18 AWG wires or .110" quick-connect receptacles. *Specify lever color: 0—black, 3—orange, 4—yellow, 5—green, 6—blue.

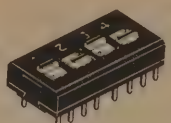
Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
STV-205K-(*)	DPST	On-none-off	$1.95	$1.46	$1.33	$1.23
STV-205N-(*)	DPDT	On-none-on	2.20	1.65	1.50	1.39

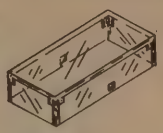
FULLY INSULATED PUSHBUTTON SWITCHES

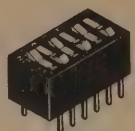
Attractive alternate action power pushbutton switches have same switching and insulation ratings as STV type toggles. 0.310" dia. colored concave top button. *Specify color: 0—black, 2—red, 3—orange, 4—yellow, 5—green, 6—blue.

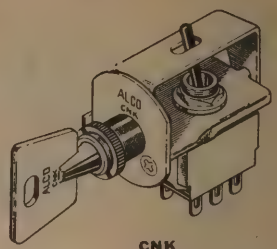
Alcoswitch No.	Contacts	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
SPV-105D-(*)	SPDT	Push on/Push off	$1.95	$1.46	$1.33	$1.23
SPV-205N-(*)	DPDT	Push on/Push off	2.35	1.76	1.60	1.48

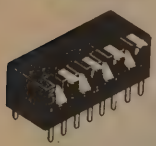

DYS-4SD

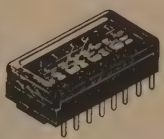

DLS-4SD

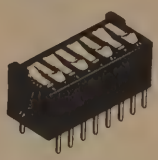

DSS-C


DBS-6


CNK


DYS-8


DLS-8


DSS-8

DIP SERIES DUAL IN-LINE MOUNTING

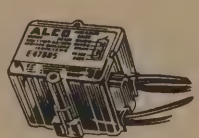
DIP switches provide high reliability at reasonable cost. All models are designed for soldering onto PC boards or may be optionally used with standard DIP sockets. Terminals and contacts are beryllium copper with gold plated over nickel to assure dependable service for low-energy level use. The low-profile DLS and DLS-SD models have molded-in terminals; all other types have epoxy sealed bases for protection during the soldering operation. The DLS and DLS-SD models are supplied with a protective cover having an "actuator lock" feature that prevents accidental operation and protects the inner mechanism during cleaning cycles. These covers are also available as an option for the DSS models.

Alco-switch No.	Type	Lever	Net Each, Lots of 1-49	50-99	100-249	250-499
DSS-4	4PST	Rocker	$3.45	$2.93	$2.76	$2.59
DSS-6	6PST	Rocker	3.95	3.36	3.16	2.96
DSS-7	7PST	Rocker	4.20	3.57	3.36	3.15
DSS-8	8PST	Rocker	4.45	3.78	3.56	3.34
DSS-10	10PST	Rocker	4.95	4.21	3.96	3.71
DSS-C*	Protective Cover		.15	.13	.12	.11
DBS-5	5PST	Rocker	3.70	3.15	2.96	2.78
DBS-6	6PST	Rocker	3.95	3.36	3.16	2.96
DLS-4	4PST	Slide	3.55	3.02	2.84	2.66
DLS-6	6PST	Slide	4.05	3.44	3.24	3.04
DLS-8	8PST	Slide	4.55	3.87	3.64	3.41
DLS-10	10PST	Slide	5.05	4.29	4.04	3.79
DLS-2SD	(2) N.O.-N.C.	Slide	3.55	3.02	2.84	2.66
DLS-3SD	(3) N.O.-N.C.	Slide	4.05	3.44	3.24	3.04
DLS-4SD	(4) N.O.-N.C.	Slide	4.55	3.87	3.64	3.41
DLS-5SD	(5) N.O.-N.C.	Slide	5.05	4.29	4.04	3.79
DYS-4	4PST	Piano	3.85	3.27	3.08	2.89
DYS-6	6PST	Piano	4.35	3.70	3.48	3.26
DYS-8	8PST	Piano	4.85	4.12	3.88	3.64
DYS-10	10PST	Piano	5.35	4.55	4.28	4.01
DYS-2SD	(2) N.O.-N.C.	Piano	3.85	3.27	3.08	2.89
DYS-3SD	(3) N.O.-N.C.	Piano	4.35	3.70	3.48	3.26
DYS-4SD	(4) N.O.-N.C.	Piano	4.85	4.12	3.88	3.64
DYS-5SD	(5) N.O.-N.C.	Piano	5.35	4.55	4.28	4.01

*Specify size: (4), (6), (7), (8) or (10).

INDUCTION RELAYS


FRE-103


FR-105

Ideal for remote control applications, eliminating shock hazards. Combines isolated step-down transformer and sensitive low voltage relay in a single laminated core. Low voltage circuit can be run through ordinary surface wiring with low current drain. Max. load, 7 amps at 125 VAC, 60 Hz, except types with suffix -230, 3.5 amps at 230 VAC, 60 Hz.

Alco Model FR-102—SPDT basic. Net Each..... **$8.95**

Alco Model FR-102-230—230-V version of above. Net..... **9.75**

Alco Model FRE-103—Plug-in outlet combined with SPDT relay (same as FR-102). Provides actuating voltage to an alarm or remote accessory. Has 3-way receptacle to select NO or NC circuit. Side jack serves as plug-in for remote sensor unit. Net Each..... **11.55**

Alco Model FRP-104—Same as FR-102, but plug-in octal base relay enclosed in plastic dust cover. Net Each..... **9.55**

Alco Model FR-105A1—SPST basic switch, similar to FR-102 but more compact. UL Listed. Net Each..... **7.55**

Alco Model FR-105-230—230-V version of above. Net..... **8.35**

SAFETY KEYSWITCHES

Compact, high quality keyswitches for safety where unintentional switching could be hazardous. Keys removable from any position. Mount in ⅜" hole in panels up to ¼" thick. Anti-rotation device prevents movement after mounting. Available with 6 or 10 Amp switches.

Alcoswitch No.	Contacts	Action	Net Each, Lots of 1-24	25-49	50-99	100-249
CNK-106D	SPDT	On-none-on	$6.15	$5.23	$4.92	$4.61
CNK-106F	SPDT	On-none-on†	6.75	5.74	5.40	5.06
CNK-206N	DPDT	On-none-on	7.00	5.95	5.60	5.25
CNK-206R	DPDT	On-none-on†	7.60	6.46	6.08	5.70
CNK-306D	3PDT	On-none-on	9.15	7.78	7.32	6.86
CNK-406N	4PDT	On-none-on	10.65	9.06	8.52	7.99
CNK	Keyswitch adapter unit		3.55	3.02	2.84	2.66
CNK-Key	Extra key for CNK		.75	.54	.60	.56
CNK-2-106D	SPDT	On-none-on	6.25	5.31	5.00	4.69
CNK-2-206N	DPDT	On-none-on	7.10	6.04	5.68	5.33
CNK-2-306D	3PDT	On-none-on	9.25	7.86	7.40	6.94
CNK-2-406N	4PDT	On-none-on	10.75	9.14	8.60	8.06
CNK-2	Keyswitch adapter unit		3.55	3.10	2.92	2.74
CNK-2-Key	Extra key for CNK-2		.65	.55	.52	.49

†Momentary position.

KEYLOCK SWITCH

Roller-type mechanical action with positive contact. Choice of 25 keys. Rated 5 A resistive, 115 VAC; 15 A. 24 VDC. Flatted ¾" diameters barrel fits panels to ¼" thick.



Alcoswitch No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
SWK-12	SPST Off or On	$6.95	$6.26	$5.56	$4.87
SWK-12-1	SPST Off	6.95	6.26	5.56	4.87
SWK-12-3	SPST On	6.95	6.26	5.56	4.87
SWK-12K	Single key for SWK-12	1.10	.99	.88	.77
SWK-13-1	Rmv. key/Off Pos.	4.45	4.01	3.56	3.12
SWK-13-2	Rmv. key/Off or On Pos.	4.45	4.01	3.56	3.12
SWK-13-3	Rmv. key/On Pos.	4.45	4.01	3.56	3.12
SWK-23-1	Rmv. key/Off Pos. Mom.	4.65	4.19	3.72	3.26
SWK-23-3	Rmv. key/On Pos. Mom.	4.65	4.19	3.72	3.26
SWK-13K	Single key for SWK-13/-23	.80	.72	.64	.56

DESIGNER SERIES KEYLOCK SWITCHES

New SKF, SKM and SKT keylocks available with reed contacts as well as multipole options. Appealing square flange design plus built-in detent and square bow keys. Available in 1.0 VA, 3 amp or 4 amp ratings. A wide variety available; information on request.



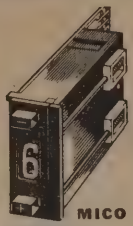
Alcoswitch No.	Contacts	Action	Net Each, Lots of 1-24	25-99	100-499	500-999
SKF-13-1	SPST	Off-on	$4.75	$4.28	$3.80	$3.33
SKF-13-2	SPST	Off-on	4.75	4.28	3.80	3.33
SKF-13-3	SPST	On-off	4.75	4.28	3.80	3.33
SKF-23-1	SPST	Off-on†	4.95	4.46	3.96	3.47
SKF-23-3	SPST	On-on†	4.95	4.46	3.96	3.47
SKT-33-1	DPDT	Off-on	6.95	6.26	5.56	4.87
SKT-33-2	DPDT	Off-on	6.95	6.26	5.56	4.87
SK13K	Extra key for SK		.80	.72	.64	.56

†Momentary position.


SMC


PICO


MHE


MICO



MRB-1-10PC


MRC


MRC-(S)

SUB-MINIATURE BI-DIRECTIONAL CODE SWITCHES

Suited for applications requiring high density panel design. Push-button design affords easy, dependable operation of switches. Life expectancy exceeds 500,000 operations. Operating voltage: 60 volts max. Contact load, static: 0.5 amps max.

Alcoswitch No.	Description	Net Each, Lots of 1-49	50-99	100-249
PICO-111-AL	Decimal, 1-of-10	$6.75	$5.40	$5.06
PICO-131-AK	BCD, 0-9	6.25	5.00	4.69
PICO-131-AL/D	BCD, Ext'd., PCB, Diode, 0-9	6.95	5.56	5.21
PICO-137-AK	BCD, Complement, 0-9	6.25	5.00	4.69
PICO-137-AL/D	BCD Complement, Ext'd. PCB, Diode, 0-9	6.95	5.56	5.21
PICO-P	End Mounting Plates	.95	.76	.71
PICO-BG	.300" Spacer	.95	.76	.71
B5LS	Connector, 5 Contacts	1.95	1.56	1.46
SMC-111-AK	Decimal, 0-9	5.95	4.76	4.46
SMC-111-AK/01	BCD, 0 & 1, Cont.	6.20	4.96	4.65
SMC-111-AK/05	BCD, 0 & 5, Cont.	6.20	4.96	4.65
SMC-111-AK/+−	BCD, + & −, cont.	6.20	4.96	4.65
SMC-111-AL	Dec., 0-9, Ext'd PCB	6.60	5.28	4.95
SMC-131-AK	BCD, 0-9	5.95	4.76	4.46
SMC-131-AL	BCD, 0-9, Ext'd PCB	6.60	5.28	4.95
SMC-131-AL/D	BCD, 0-9, Ext'd PCB, diode	6.60	5.28	4.95
SMC-137-AK	BCD Complement, 0-9	5.95	4.76	4.46
SMC-141-AK	BCD w/Complement, 0-9	6.60	5.28	4.95
SMC-161-AK	7-Segment, 0-9	9.25	7.40	6.94
SMC-301-AK	Hexadecimal, 0-9 & A-F	7.25	5.80	5.44
SMC-524-AK	Complement of 9's, Complement, 0-9	8.75	7.00	6.56
SMC-DS/0-9	Dummy Switch, 0-9	5.25	4.20	3.94
SMC-P	End Mtg. Plates	.95	.76	.71
SMC-BG	.300" Spacer	.95	.76	.71
B9L	Conn., 9 Contacts	2.25	1.80	1.69
B11LS	Conn., 11 Contacts	2.50	2.00	1.88

BI-DIRECTIONAL CODE SWITCHES

These miniature bi-directional pushbutton code switches are intended for applications requiring maximum character size and viewing distance. For use in communications, test, data processing and process control equipment. Operating voltage: 60 volts max. Contact load, static: 1 amp max.

MHE-111-AK	Decimal Output	$9.25	$7.40	$6.94
MHE-131-AK	BCD Output	9.25	7.40	6.94
MHE-131-AL	BCD, Ext. PC Brd.	9.95	7.96	7.46
MHE-141-AK	BCD, w/Compliment	9.95	7.96	7.46
MHE-P (Pair)	End Plates	1.50	1.20	1.13
MHE-BG	.472" Spacer	1.75	1.40	1.31
MICO-111-AK	BCD Output	8.40	6.72	6.30
MICO-131-AK	BCD Output	8.40	6.72	6.30
MICO-131-AL	BCD, Ext. PC Brd.	9.50	7.60	7.13
MICO-141-AK	BCD, w/Compliment	9.50	7.60	7.13
MICO-P (Pair)	End Mounting Plates	1.20	.96	.90
MICO-H	ClampingScrewElement	.60	.48	.45
MICO-BG	.433" Spacer	1.25	1.00	.94
B12L	MICO Connector	2.50	2.00	1.88

MRC SERIES MINIATURE ROTARY SWITCHES

Newest family of Alco rotary switches. Terminals permanently molded into DAP base. Choice of 1, 2, 3 or 4 pole models, all with .610" body dia. and .620" depth behind panel, less terminals. All MRC 1, 2 and 3 pole types have adjustable stops to provide any number of positions from 2 to maximum possible for model chosen; simply position indexing washer on bushing. *Indicates supplied with knob.

Alcoswitch No.	Description	Net Each, Lots of 1-24	25-49	50-99	100-249
MRC-1-10	*1 pole, 2-10 pos.	$7.55	$5.66	$5.13	$4.76
MRC-2-5	*2 pole, 2-5 pos.	7.95	5.96	5.41	5.01
MRC-3-3	*3 pole, 2-3 pos.	8.35	6.26	5.68	5.26
MRC-4-2	*4 pole, 2 pos.	8.35	6.26	5.68	5.26
MRC-1-10S	1 pole, 2-10 pos.	7.55	5.66	5.13	4.76
MRC-2-5S	2 pole, 2-5 pos.	7.95	5.96	5.41	5.01
MRC-3-3S	3 pole, 2-3 pos.	8.35	6.26	5.68	5.26
MRC-4-2S	4 pole, 2 pos.	8.35	6.26	5.68	5.26
MRCE-1-10S	1 pole, 2-10 pos.	8.75	6.56	5.95	5.51
MRCE-2-5S	2 pole, 2-5 pos.	9.25	6.94	6.29	5.83
MRCE-3-3S	3 pole, 2-3 pos.	9.60	7.20	6.53	6.05
MRCE-4-2S	4 pole, 2 pos.	9.60	7.20	6.53	6.05

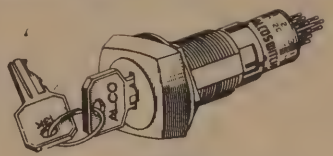
MINIATURE ROTARY SWITCHES

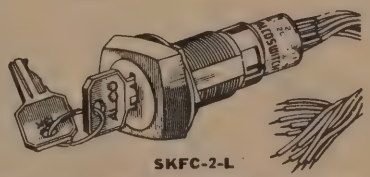
MRB adjustable stop switches are rated 150 ma @ 115 VAC. The MRB series is a 36° rotary switch with adjustable stops from two to ten positions and is also available with 30° detent. It can be adjusted to stop from two to twelve positions. The suffix "S" indicates long shaft and the suffix "PC" indicates printed circuit mounting. The suffix "C" indicates continuous rotation.

Alcoswitch No.	Poles	Positions	Net Each, Lots of 1-24	25-49	50-99	100-249
MRB-1-10S	1	2-10	$7.25	$5.44	$4.93	$4.57
MRB-1-10SC	1	2-10	7.25	5.44	4.93	4.57
MRB-2-5S	2	2-5	8.20	6.15	5.58	5.17
MRB-3-3S	3	2-3	8.90	6.68	6.05	5.61
MRB-1-10S-PC	1	2-10	7.70	5.78	5.24	4.85
MRB-1-10SC-PC	1	2-10	7.70	5.78	5.24	4.85
MRB-2-5S-PC	2	2-5	8.75	6.56	5.95	5.51
MRB-3-3S-PC	3	2-3	9.40	7.05	6.39	5.92
MRB-1-12S†	1	2-12	9.05	6.79	6.15	5.70
MRB-1-12SC†	1	2-12	9.05	6.79	6.15	5.70
MRB-2-6S†	2	2-6	9.80	7.35	6.66	6.17
MRB-4-3S†	4	2-3	10.55	7.91	7.17	6.65
MRB-1-12S-PC†	1	2-12	9.50	7.13	6.46	5.99
MRB-1-12SC-PC†	1	2-12	9.50	7.13	6.46	5.99
MRB-2-6S-PC†	2	2-6	10.35	7.76	7.04	6.52
MRB-4-3S-PC†	4	2-3	10.60	7.95	7.21	6.68
MRB-1-10	1	2-10	7.25	5.44	4.93	4.57
MRB-2-5	2	2-5	8.20	6.15	5.58	5.17
MRB-3-3	3	2-3	8.90	6.68	6.05	5.61
MRB-1-10-PC	1	2-10	7.70	5.78	5.24	4.85
MRB-1-10C-PC	1	2-10	7.70	5.78	5.24	4.85
MRB-2-5-PC	2	2-5	8.75	6.56	5.95	5.51
MRB-3-3-PC	3	2-3	9.40	7.05	6.39	5.92

†30° Detent

ROTARY KEYLOCK-DESIGNER SERIES


SKFC-1


SKFC-2-L

New SKFC rotary keylock offers square flange design, choice of terminations, turret lugs or 8½" color-coded wire leads. Contacts rated 500 mA at 125 VAC or 28 VDC (resistive). Key removable in position 1 only.

Alcoswitch No.	Poles	Positions	Net Each, Lots of 1-24	25-49	50-99	100-249
SKFC-1-(*)	1	6, 7, 8, 9 or 10	$10.65	$ 7.99	$7.24	$6.71
SKFC-2-(*)	2	3, 4 or 5	11.05	8.29	7.51	6.96
SKFC-3-(*)	3	2 or 3	11.35	8.51	7.72	7.15
SKFC-4-(*)	4	2	11.85	8.89	8.06	7.47
SKFC-1-(*)-L	1	6, 7, 8, 9 or 10	12.45	9.34	8.47	7.84
SKFC-2-(*)-L	2	3, 4 or 5	12.85	9.64	8.74	8.10
SKFC-3-(*)-L	3	2 or 3	13.15	9.86	8.94	8.28
SKFC-4-(*)-L	4	2	13.65	10.24	9.28	8.60
SK-13K	Extra key for SKFC		.70	.60	.60	.50
MRC-1-10SL	1	Adj., 2-10	9.50	7.13	6.46	5.99
MRC-2-5SL	2	Adj., 2-5	9.95	7.46	6.77	6.27
MRC-3-3SL	3	Adj., 2-3	9.45	7.09	6.43	5.95
MRC-4-2SL	4	2, Fixed	9.95	7.46	6.77	6.27
MRC-1-10L	1	Adj., 2-10	8.75	6.56	5.95	5.51
MRC-2-5L	2	Adj., 2-5	9.95	7.46	6.77	6.27
MRC-3-3L	3	Adj., 2-3	10.25	7.69	6.46	6.15
MRC-4-2L	4	2, Fixed	10.80	8.10	7.34	6.80

*Max. position; specify.


MST-115D


MST-305


MST-125D


MST-221N-RA


MSTG-125D

MST-RA/MST-VRA RIGHT ANGLE PC TERMINALS WITH GOLD CONTACTS

Miniature right angle toggle switches designed for printed circuit board applications. Available only with gold plating over a nickel base for use in low level circuits. Two distinct styles are offered as stock items: "RA" has a side ways toggle motion and the "VRA" has the traditional up-down actuation. Both models have a standard .413" toggle length and a threaded bushing, supplied with appropriate mounting hardware.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MST-121D-RA/G1	SPDT	On-none-on	$2.25	1.69	1.53	1.42
MST-121E-RA/G1	SPDT	On-off-on	2.75	2.06	1.87	1.73
MST-121F-RA/G1	SPDT	On-none-on†	2.80	2.10	1.90	1.76
MST-221N-RA/G1	DPDT	On-none-on	3.05	2.29	2.07	1.92
MST-221P-RA/G1	DPDT	On-off-on	3.45	2.59	2.35	2.17
MST-221R-RA/G1	DPDT	On-none-on†	3.50	2.63	2.38	2.21
MST-121D-VRA-G1	SPDT	On-none-on	2.25	1.69	1.53	1.42
MST-121E-VRA/G1	SPDT	On-off-on	2.75	2.06	1.87	1.73
MST-121F-VRA/G1	SPDT	On-none-on†	2.80	2.10	1.90	1.76
MST-221N-VRA/G1	DPDT	On-none-on	3.05	2.29	2.07	1.92
MST-221P-VRA/G1	DPDT	On-off-on	3.45	2.59	2.35	2.17
MST-221R-VRA/G1	DPDT	On-none-on†	3.50	2.63	2.38	2.21

†Indicates momentary position.

MST MINIATURE TOGGLE SWITCHES

Slim, bat handle toggle switches for miniature applications with limited back-of-panel clearance. Terminals and contacts are solid silver (center terminal, copper with silver plate). Case material, black phenolic resin; ¼-40 threaded bushing. Rated 6 amps at 125 VAC. Offering high capacity for small size, SPDT and DPDT types have life cycle of over 80,000 on-off operations; 3PDT and 4PDT, over 20,000. High voltage barriers between terminals and contacts; 1 piece body.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MST-105D	SPDT‡	On-none-on	$2.05	$1.74	$1.64	$1.54
MST-105E	SPDT	On-off-on	2.55	2.17	2.04	1.91
MST-105F	SPDT	None-on-on†	2.65	2.25	2.12	1.99
MST-105G	SPDT	On†-off-on†	2.65	2.25	2.12	1.99
MST-105H	SPDT	On-off-on†	2.65	2.25	2.12	1.99
MST-115D*	SPDT	On-none-on	2.10	1.79	1.68	1.58
MST-205N	DPDT‡	On-none-on	2.90	2.47	2.32	2.18
MST-205P	DPDT	On-off-on	3.40	2.89	2.72	2.55
MST-205PA	DPDT‡	On-on-on	4.10	3.49	3.28	3.08
MST-205R	DPDT	None-on-on†	3.50	2.98	2.80	2.63
MST-205S	DPDT	On†-off-on†	3.50	2.98	2.80	2.63
MST-205SA	DPDT‡	On†-on-on†	4.30	3.66	3.44	3.23
MST-205T	DPDT	On-off-on†	3.50	2.98	2.80	2.63
MST-205TA	DPDT‡	On-on-on†	4.30	3.66	3.44	3.23
MST-215N*	DPDT	On-none-on	2.95	2.51	2.36	2.21
MST-305D	3PDT	On-none-on	5.05	4.29	4.04	3.79
MST-305E	3PDT	On-off-on	5.55	4.72	4.44	4.16
MST-305F	3PDT	None-on-on†	5.65	4.80	4.52	4.24
MST-305H	3PDT	On-off-on†	5.65	4.80	4.52	4.24
MST-315D*	3PDT	On-none-on	5.10	4.34	4.08	3.83
MST-405N	4PDT	On-none-on	6.55	5.57	5.24	4.91
MST-405P	4PDT	On-off-on	7.05	5.99	5.64	5.29
MST-415N*	4PDT	On-none-on	6.60	5.61	5.28	4.95

MST-PC TOGGLES WITH SILVER CONTACTS

Miniature toggle switches designed for printed-circuit applications feature uniform mounting height, cases molded of black phenolic, solid silver contacts, pinned toggle (anti push-in), epoxy sealed terminals and a shoulder on the bushing.

Alcoswitch No.	Contacts	Application	Net Each, Lots of 1-24	25-49	50-99	100-249
MST-125D-PC	SPDT	On-none-on	$2.05	1.54	1.39	1.29
MST-125E-PC	SPDT	On-off-on	2.55	1.91	1.73	1.61
MST-125F-PC	SPDT	None-on-on†	2.60	1.95	1.77	1.64
MST-225N-PC	DPDT	On-none-on	2.85	2.14	1.94	1.80
MST-225P-PC	DPDT	On-off-on	3.25	2.44	2.21	2.05
MST-225PA-PC	DPDT	On-on-on	3.55	2.66	2.41	2.24

MST-PC TOGGLES WITH GOLD CONTACTS

Identical to the above series except that the silver is replaced with 50 microinches of gold over nickel, including the terminals. Sealed terminals, pinned toggle (anti push-in) and a shoulder on the bushing.

MST-121D-PC/G1	SPDT	On-none-on	$2.05	1.54	1.39	1.29
MST-121E-PC-G1	SPDT	On-off-on	2.55	1.91	1.73	1.61
MST-121F-PC/G1	SPDT	None-on-on†	2.60	1.95	1.77	1.64
MST-221N-PC/G1	DPDT	On-none-on	2.85	2.14	1.94	1.80
MST-221P-PC/G1	DPDT	On-off-on	3.25	2.44	2.21	2.05
MST-221PA-PC/G1	DPDT	On-on-on	3.55	2.66	2.41	2.24

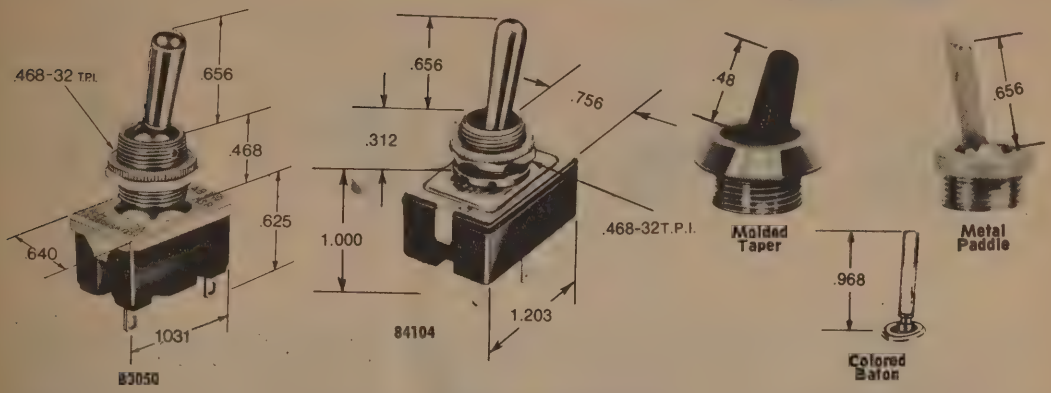
MSTG STANDARD TOGGLE WITH 15/32" BUSHING AND SILVER CONTACTS

The MSTG Series features a standard .687" long toggle mounted in a 15/32" bushing and a miniature body. The chromed toggle is pinned on the bushing for added stability and a longer life. Case is molded of black phenolic plastic.

MSTG-125D	SPDT	On-none-on	$2.65	1.99	1.80	1.67
MSTG-125E	SPDT	On-off-on	3.15	2.36	2.14	1.98
MSTG-225N	DPDT	On-none-on	3.45	2.59	2.35	2.17
MSTG-225P	DPDT	On-off-on	3.85	2.89	2.62	2.43
MSTG-225PA	DPDT	On-on-on	4.15	3.11	2.82	2.61
MSTG-325D	3PDT	On-none-on	5.35	4.01	3.64	3.37
MSTG-425N	4PDT	On-none-on	6.55	4.91	4.45	4.13

Toggle Switches

SERIES 050 AND 104—3 AMPS

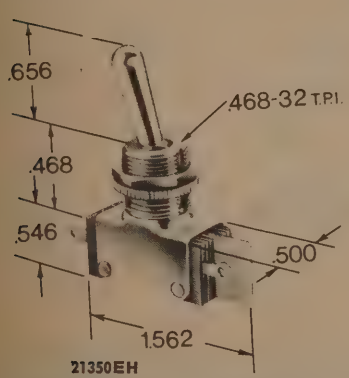


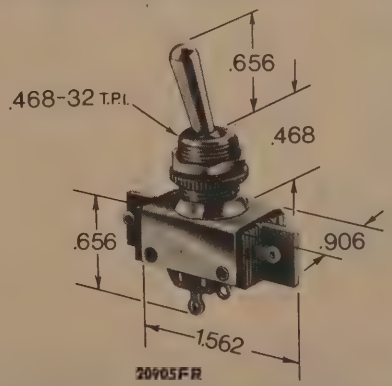
Designer's choice for low-level switching. Small, space-saving switches have "quick make/break" wiping action. Knife-type contact mechanism meets rigid reliability standards required by data processing, communications and instrumentation industries. Standard models feature silver-plated bronze contacts and terminals. Series 050 switches have solder lug terminals; Series 104 have combination solder lug-quick connect terminals. Exposed metal parts are bright nickel. Dielectric breakdown exceeds 1000 V rms. UL listed, 3 amps at 125 V AC/DC; 1 amp at 250 V AC/DC. Standard hardware includes 1 hex nut and 1 knurled nut, unassembled. Available in two or three positions. Series 050 slotted bushing length, 15/32"; Series 104, 5/16". Series 050 SPSTand DPST switches have Off-On action; SPDT and DPDT have ON-On action. Both Series 104 switches have On-Off-On action.

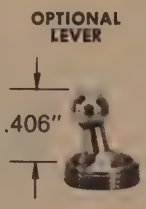
Arrow Hart No.	Circuit	Lever Type	List Each
SERIES 050—TWO POSITION			
83050	SPST	Bat	$2.33
83050CL1	SPST	Black baton♦	2.67
83050CL2	SPST	White baton♦	2.67
83050CL3	SPST	Red baton♦	2.67
83050SB	SPST	Molded taper*	3.47
83052	SPDT	Bat	2.87
83052CG	SPDT	Metal paddle*	3.05
83052SG	SPDT	Molded taper	3.38
83053	DPST	Bat	3.80
83053CL1	DPST	Black baton♦	4.14
83053CL2	DPST	White baton♦	4.14
83053CL3	DPST	Red baton♦	4.14
83053CG	DPST	Metal paddle*	4.88
83053SG	DPST	Molded taper*	4.30
SERIES 050 (CONT'D.)			
83054	DPDT	Bat	$4.34
83054CL1	DPDT	Black baton♦	4.68
83054CL2	DPDT	White baton♦	4.68
83054CL3	DPDT	Red baton♦	4.68
83054CG	DPDT	Metal paddle*	4.84
83054SG	DPDT	Molded taper*	4.84
SERIES 104—THREE POSITIONS			
84105	SPDT	Bat	$5.65
84104	DPDT	Bat	6.75

*1 hex nut and 1 dress nut supplied, unassembled. ♦Black, white and red baton levers are stocked; other colors available on request.

CANOPY SERIES—TWO POSITION







Unique, quick make/break design offers a full selection of circuits on a small base. Dependable roller-action mechanism provides long life. Ideally suited for small motors. UL listed, 3 amps at 125 V AC/DC; 1 amp at 250 V AC/DC. Exposed metal parts are bright nickel. Dielectric breakdown exceeds 1000 V rms. Contacts and terminals are silver-plated bronze.

Arrow Hart No.	Circuit	Lever Type	List Each
21350BF	SPDT	Ball	$3.74
21350EH	SPDT	Bat	3.74
21661BE♦	SPDT	Bat	4.52
21827GA*	SPDT	Bat	5.00
20902N	DPST	Ball	4.88
20902CX	DPST	Bat	4.88

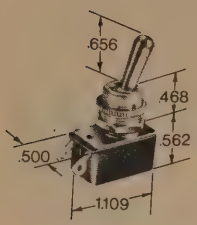
Solder lug terminals. Standard hardware includes 1 hex nut and 1 knurled nut, unassembled, SPDT and DPDT switches have On-On action, unless otherwise noted. DPST switches have Off-On action. Slotted bushing length, 15/32" unless otherwise noted.

Arrow Hart No.	Circuit	Lever Type	List Each
20905BX	DPDT	Ball	$5.60
20905FR	DPDT	Bat	5.60
20905C♦	DPDT	Ball	6.68
20905KA♦	DPDT	Bat	6.68
21858BX*	DPDT	Bat	7.20

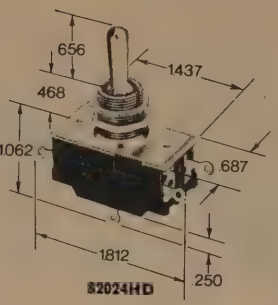
♦Bushing length, 1". *On-momentary On action.

Toggle Switches

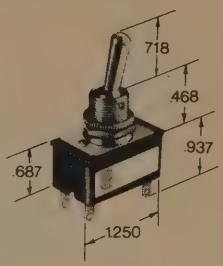
SERIES 591, 015 AND 024—6 AMPS



B6994N



B2024HD



81024GB

OPTIONAL LEVER



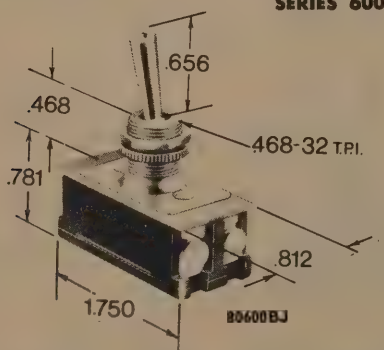
591 and 015 Series

Series 591 offers a selection of medium current switches in a small, molded base. Quick make/break wiping action. Series 015 and 024 deluxe switches provide maximum reliability in both low-level and rated power applications. All switches, except No. 81021AV, are UL listed. 6 amps at 125 V AC/DC; 3 amps at 250 V AC/DC; No. 81021AV is UL listed, 6 amps at 125 V AC/DC; 1 amp at 250 V AC/DC. Exposed metal parts are bright nickel. Dielectric breakdown exceeds 1000 V rms. Contacts and terminals are silver-plated bronze. Standard hardware includes 1 hex nut and 1 knurled nut, unassembled. Solder lug terminals, unless otherwise noted. SPST and DPST switches have Off-On action, unless otherwise noted. SPDT and DPDT switches have On-On action unless otherwise noted. Bushing dia., 15/32"-32TPI.

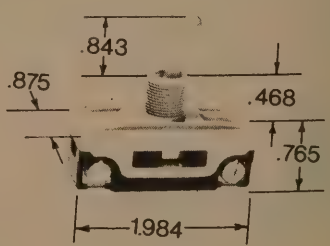
Arrow Hart No.	Circuit	Lever Type	List Each
SERIES 591—TWO POSITION			
86599QE*	SPST	Bat	$2.60
86964E	SPST	Bat	2.63
86994CL1	SPST	Black baton♦	2.67
86994CL2	SPST	White baton♦	2.67
86994CL3	SPST	Red baton♦	2.67
86994N	SPST	Bat	2.33
SERIES 015—TWO POSITION			
81015AW	SPST	Bat	$2.22
81015CL1	SPST	Black baton♦	2.56
81015CL2	SPST	White baton♦	2.56
81015CL3	SPST	Red baton♦	2.56
81045FB§§	SPST	Bat	3.92
81021AV	SPDT	Bat	2.73
81021CL1	SPDT	Black baton♦	3.07
81021CL2	SPDT	White baton♦	3.07
81021CL3	SPDT	Red baton♦	3.07
81051G†	SPDT	Bat	4.82
81024GB	DPST	Bat	$3.90
81024GBCL1	DPST	Black baton♦	4.24
81024GBCL2	DPST	White baton♦	4.24
81024GBCL3	DPST	Red baton♦	4.24
81024KB††	DPST	Bat	3.90
81027CB	DPDT	Bat	4.49
81027CE	DPDT	Bat	4.49
81027CL1	DPDT	Black baton♦	4.83
81027CL2	DPDT	White baton♦	4.83
81027CL3	DPDT	Red baton♦	4.83
81057N†	DPDT	Bat	5.99
SERIES 024—THREE POSITION			
B2022HD‡	SPDT	Bat	$5.00
B2024HD‡	DPDT	Bat	7.35

*Wire leads. §Screw terminals. §§Off-momentary On action. †On-momentary On action. ‡On-Off-On action. ††End-connected solder lugs. ♦Black, white and red baton levers are stocked; other colors available on request.

SERIES 600 AND 800—16 AMPS



B0600BJ



83800

Series 600 medium-duty switches are primarily built for small motor applications, AC or DC. Series 800 medium-duty switch features all-molded construction for applications where double insulation is required. Both series feature screw terminals, Off-On action and 15/32" bushing length, unless otherwise noted. Exposed metal parts are bright nickel. Dielectric breakdown exceeds 1000 V rms. Silver-plated bronze contacts and terminals. Both series UL listed. Series 600 SPST switches rated 12 amps at 125 V AC/DC; 6 amps at 250 V AC/DC. Series 600 DPST switches and Series 800 switch are rated 16 amps, 1 hp at 125 V AC/DC; 8 amps, 1 hp at 250 V AC/DC.

Arrow Hart No.	Circuit	Lever Type	List Each
SERIES 600			
80600	DPST	Ball	$3.47
80600B	DPST	Ball	3.47
80600BJ	DPST	Bat	3.47
80600CL1	DPST	Black baton♦	4.35
80600CL2	DPST	White baton♦	4.35
80600CL3	DPST	Red baton♦	4.35
80607BJ	SPST	Bat	3.82
SERIES 600 (CONT'D.)			
80618K	SPDT	Bat	$4.08
SERIES 800			
83800	DPST	Molded bat	$3.53

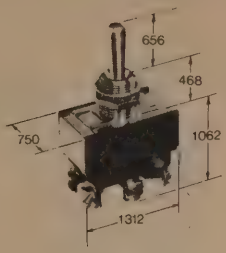
♦Black, white and red baton levers are stocked; other colors available on request. 5/16" bushing length.

TOGGLE SWITCHES & MOUNTING HARDWARE

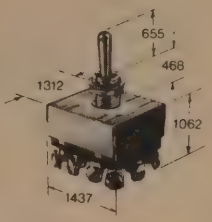
SERIES 608—15 AMPS AC ONLY



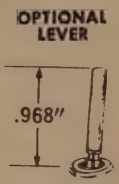
SP



DP



3P/ 4P



Designed to provide high capacity (AC only) on a small size phenolic base. Butt-type contacts and ball joint lever construction ensures long life. Available in 2- or 3-position and momentary contact at one side or both sides of center position. Exposed metal parts of bright nickel. Dielectric breakdown exceeds 1000 V rms. Silver cadmium oxide contact buttons. UL listed, 15 amps, 3/4 hp at 125 VAC; 10 amps, 3/4 hp at 250 VAC. Screw terminals, unless otherwise noted. 15/32" bushing length.

Arrow Hart No.	Action	Lever Type	List Each
SPST			
82600	Off-On	Bat	$2.37
82600CL1	Off-On	Black baton♦	2.71
82600CL2	Off-On	White baton♦	2.71
82600CL3	Off-On	Red baton♦	2.71
82601	Off-On	Bat	2.08
82601CL1	Off-On	Black baton♦	2.42
82601CL2	Off-On	White baton♦	2.42
82601CL3	Off-On	Red baton♦	2.42
82601P	Off-On	Bat	2.08
82601PCL1	Off-On	Black baton♦	2.42
82601PCL2	Off-On	White baton♦	2.42
82601PCL3	Off-On	Red baton♦	2.28
82779SA*	Off-On	Bat	4.10
SPDT			
82604	On-On	Bat	$2.78
82604CL1	On-On	Black baton♦	3.12
82604CL2	On-On	White baton♦	3.12
82604CL3	On-On	Red baton♦	3.12
82605	On-On	Bat	2.37
82605P	On-On	Bat	2.37
82602	On-Off-On	Bat	2.78
82602CL1	On-Off-On	Black baton♦	3.12
82602CL2	On-Off-On	White baton♦	3.12
82602CL3	On-Off-On	Red baton♦	3.12
82603	On-Off-On	Bat	2.37
82603P	On-Off-On	Bat	2.37
82603PCL1	On-Off-On	Black baton♦	2.71
82603PCL2	On-Off-On	White baton♦	2.71
82603PCL3	On-Off-On	Red baton♦	2.71
82726	(On)-Off-(On)	Bat	3.62
DPST			
82606	Off-On	Bat	$3.81
82606CL1	Off-On	Black baton♦	4.15
82606CL2	Off-On	White baton♦	4.15
82606CL3	Off-On	Red baton♦	4.15
82607	Off-On	Bat	3.21
82607CL1	Off-On	Black baton♦	3.55
82607CL2	Off-On	White baton♦	3.55
82607CL3	Off-On	Red baton♦	3.55
82607PCL1	Off-On	Black baton♦	3.55
82607PCL2	Off-On	White baton♦	$3.55
82607PCL3	Off-On	Red baton♦	3.55
DPDT			
82610	On-On	Bat	$4.69
82610CL1	On-On	Black baton♦	5.03
82610CL2	On-On	White baton♦	5.03
82610CL3	On-On	Red baton♦	5.03
82611	On-On	Bat	3.81
82608	On-Off-On	Bat	4.69
82608CL1	On-Off-On	Black baton♦	5.03
82608CL2	On-Off-On	White baton♦	5.03
82608CL3	On-Off-On	Red baton♦	5.03
82609	On-Off-On	Bat	3.81
82609P	On-Off-On	Bat	3.81
82609CL1	On-Off-On	Black baton♦	4.15
82609CL2	On-Off-On	White baton♦	4.15
82609CL3	On-Off-On	Red baton♦	4.15
82736	(On)-Off-(On)	Bat	6.55
3PST			
82612	Off-On	Bat	$6.98
3PDT			
82616	On-On	Bat	$8.83
82617	On-On	Bat	7.36
82614	On-Off-On	Bat	8.83
82615	On-Off-On	Bat	7.36
4PDT			
82635	On-On	Bat	$12.48
82636	On-On	Bat	11.00
82633	On-Off-On	Bat	12.48
82634	On-Off-On	Bat	11.00

♦Black, white and red baton levers are stocked; other colors available on request. Solder terminals. Quick-connect terminals. *Rated 20 amps, 1 hp at 125 VAC; 10 amps, 1 hp at 250 VAC. ( )Momentary action.

MOUNTING HARDWARE FOR STANDARD BUSHING-MOUNTED SWITCHES

All bushing-mounted switches are furnished with two mounting nuts. One goes behind the panel to prevent the bushing or sleeve from being distorted by overtightening the front-panel nut. Arrow Hart accepts no responsibility for damage to switches that are mounted without the back-up nuts.

Arrow Hart No.	Description	Thread or I.D.	Material	Finish	List Each
8947-151AS	Standard hex	15/32"-32	Brass	Tin dip	$0.10
8947-232AH	Standard hex	15/32"-32	Steel	Chromate	.09
8991-3AS	Standard knurled	15/32"-32	Brass	Tin dip	.10
8991-25AZ	Dress knurled	15/32"-32	Brass	Nickel	.18
1561-238AZ	Top nut	15/32"-32	Brass	Nickel	.47
8991-1378AS	Standard lockwasher	15/32"	Bronze	Tin dip	.10
20590-174AS	Standard locating ring	15/32"	Brass	Tin dip	.10
20590-1AS	On-Off dial	15/32"	Brass	Tin dip	.16
21172-AS	Hi-Lo dial	15/32"	Brass	Tin dip	.16

Toggle Switches

Series 421 quick make/break, AC/DC switches are designed to handle rugged applications up to 20 amps, 2 hp at 250 V. Widely used in industrial power tools and floor cleaning and polishing equipment. Series 602 heavy-duty switches are designed for higher power applications than Series 421. Both series feature wiping action contacts, screw terminals, Off-On action and 15/32" bushing length, unless otherwise noted.

Arrow Hart No.	Circuit	Lever Type	List Each
SERIES 421			
80421†	DPST	Ball	$8.70
80421U	DPST	Bat	8.17
SERIES 602			
80601BD	SPST	Bat	$6.30
80609CA	SPDT	Bat	6.04
SERIES 602 (CONT'D.)			
80602C	DPST	Ball	$6.04
80602CA	DPST	Bat	6.04
80602CL1	DPST	Black baton♦	6.38
80602CL2	DPST	White baton♦	6.38
80602CL3	DPST	Red baton♦	6.38

♦Black, white and red baton levers are stocked; other colors available on request. †11/32" bushing length; 1/2" diameter.

SERIES 638 HEAVY DUTY—10-30 AMPS

The 3-position, positive center-off feature assures that the lever cannot be moved from either side through the center without stopping; can be supplied without center stop on request. Unique feature makes switches ideal for motor reversing applications. Bushing and flush-mount models available. Screw terminals. Bushing-mount models have 3/4" dia., 32 TPI, keyed bushing; 13/32" long, and ball levers. Flush-mount models have two mounting holes and square lever. All switches have On-Off-On action, unless otherwise noted. UL listed at rated power.

Arrow Hart No.	Circuit	Rated Amps, AC//DC @ 125 V	Rated Amps, AC//DC @ 250 V	Net Each
80638D	DPDT	10	5	$12.95
80983	3PDT	10	5	16.68
80985	4PDT	10	5	22.25
80634	DPDT	20	10♦	8.18
80975*	DPDT	20	10♦	8.18
80988	DPDT	30	20	14.26

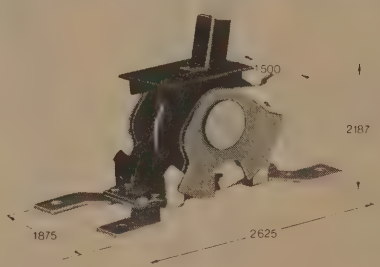
Arrow Hart No.	Circuit	Rated Amps, AC/DC @ 125 V	Rated Amps, AC/DC @ 250 V	List Each
80898	3PDT	30	20	$17.19
80899	4PDT	30	20	19.61
82347	3-Ckt.	30	20	9.89

†Rated 1/2 hp at 125-230 V. ♦Rated 1 1/2 hp at 250 VAC; 2 hp 230 VAC. *2-position switch.

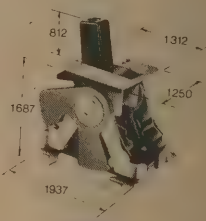
EXTRA HEAVY DUTY TOGGLE SWITCHES
UL FILE E1148 GUIDE WOYR



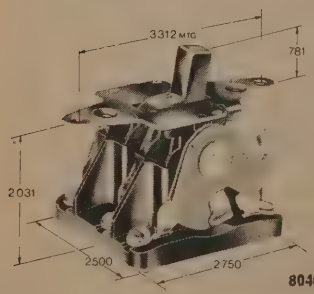
80093



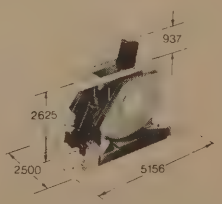
7828B



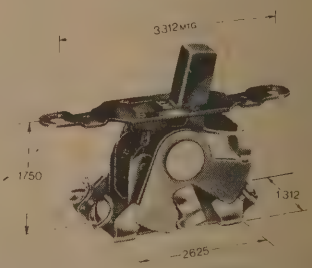
8686U



80404



80770K



100006

Arrow Hart No.	Circuit	Rated Amps, /DC @ 250 V	Rated Amps, /DC @ 600 V	List Each
7828B	DPST	60	25	$9.88
8686U	DPST	30	.....	4.52
80093	DPST	30	20	5.57

Arrow Hart No.	Circuit	@ 250 V	@ 600 V	List Each
80404	3PST	30	20	$13.72
80770K	DPST	60	.....	18.60
100006	DPST	30	.....	5.28

†Rated 2 hp at 250 V AC/DC.

Lighted Pushbutton Switches

ADAPT-A-SWITCH LIGHTED PUSHBUTTON SWITCHES

Lens Lamp Actuator/Indicator Mounting Nut



Lens Actuator/Indicator Mounting Nut

Snap-In Contact Blocks

Only 31 stock components build 25,334 different variations. Lenses and actuators available in three shapes; round, square and rectangular. Choice of seven lens colors; white, red, green, blue, yellow, amber and black (opaque); use black opaque when no illumination is required. Two switching actions available; momentary and alternate action. Four contact block assemblies; single, double, triple and quad. Form Z circuit. Lamps not supplied; use standard T-1 3/4 groove base incandescent lamp (6 V, No. 337; 14 V, No. 336; 28 V, No. 334).

SPECIFICATIONS

ACTUATOR

Terminals: Tin plated, solder type; accept AWG 18 wire.
Weight: 8 grams.
Plunger Travel: .094".

CONTACT BLOCK

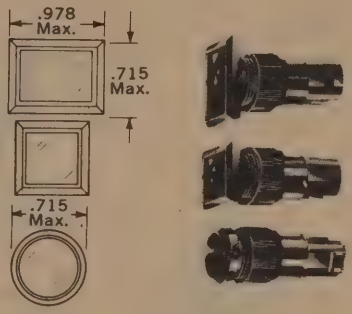
Terminals: Solid fine silver, solder type; accept AWG 18 wire.
Weight: 4 grams.
Contacts: Positive snap, wiping action
Material: Standard duty, fine silver; low energy, gold plated.

CONTACT RATINGS

Standard Duty: 5 amps at 125 VAC, resistive; 2 amps at 250 VAC, resistive; 5 amps at 28 VDC, resistive.
Low Energy: Minimum rating for dry circuit application, 10 μA at 50 mV; designed for applications under 100 mV.

LIFE

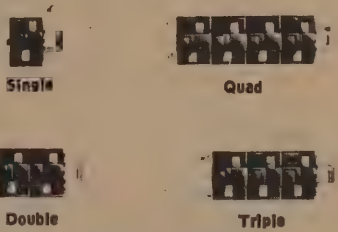
Mechanical and Electrical (At Full Ratings): 100,000 cycles.



Lens & Actuator Shapes



I Form Z Circuit



Single Quad

Double Triple

MAX. OPERATING FORCE

No. of Poles	Action			
	Momentary		Alternate	
	Oz.	Grms.	Oz.	Grms.
1	12	341	16	454
2	24	662	32	909
3	36	1022	43	1362
4	48	1363	*	

*Do not use.

LENSES

Color	Rectangular	Square	Round
White	83500-70	83500-80	83500-90
Red	83500-71	83500-81	83500-91
Green	83500-72	83500-82	83500-92
Blue	83500-73	83500-83	83500-93
Yellow	83500-74	83500-84	83500-94
Amber	83500-75	83500-85	83500-95
Black	83500-76	83500-86	83500-96

ACTUATORS

Action	Rectangular	Square	Round
Momentary	83501	83502	83503
Alternate	83504	83505	83506

CONTACT BLOCKS

Type	Low-Level	Standard	Type	Low-Level	Standard
Single	83600-30	83500-30	Triple	*	83500-330
Double	*	83500-230	Quad	*	83500-330

*Information on request.

HOW TO ORDER

Select lens shape and color, shape and action of actuator (actuator and lens shape must be the same) and desired contact block from tables above. All components must be ordered separately.

MIX AND MATCH INDICATORS FOR ILLUMINATED SWITCHES

Indicators, identical in appearance to the illuminated switches listed above, are available. Same lens shape and colors, same body styles and dimensions. To order, specify Arrow Hart No. for desired lens shape and color (from table above) and indicator body (from table below).

Arrow Hart No.	Indicator Body Shape
83507	Rectangular
83508	Square
83509	Round

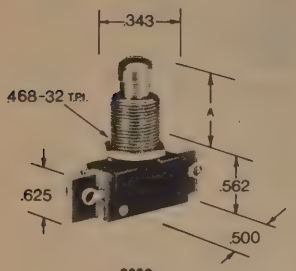
ACTUATOR-TO-INDICATOR SNAP-ON CLIP

Snap-on clip converts an actuator to an indicator only.

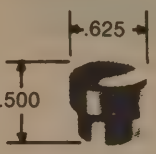
GENERAL PURPOSE PUSHBUTTON SWITCHES

GENERAL PURPOSE PUSHBUTTON SWITCHES

A variety of general purpose pushbutton switches to suit most any requirement. Exposed metal parts are bright nickel; aluminum for Series 511. Dielectric breakdown exceeds 1000 V rms. **Contact Material:** Silver-plated bronze. **Terminal Material:** Silver-plated bronze. Standard hardware includes 1 hex nut and 1 knurled nut (unassembled). Snap-on buttons (red or black) available separately for grooved switches.



3392



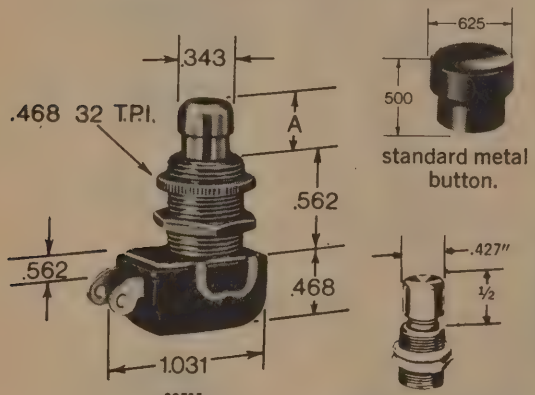
Standard button

CANOPY SERIES—LOW OPERATING FORCE (1 AMP AC ONLY)

AC only, butt-type contact switches feature low operating force. Available with standard button, snap-on red or black plastic button, or a grooved shaft which accepts a snap-on button; snap-on button must be ordered separately for grooved switches (see table elsewhere on these Arrow Hart pages). Solder lug terminals. Slotted bushing, 15/32" dia., 9/16" long. UL listed, 1 amp at 125 VAC. Z circuit. 1 N.O., 1 N.C. action.

Arrow Hart No.	Button Style	List Each	Arrow Hart No.	Button Style	List Each
3392	Standard	$4.09	3392AER	Red	$5.06
3392AE	Black	5.06	3392AEB	Grooved*	4.09

*For user-assembled snap-on buttons, "grooved" switch style must be used.



80511

standard metal button.

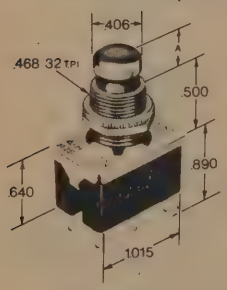
Concave metal button.

SERIES 511—LOW OPERATING FORCE (3 AMPS AC ONLY)

AC only, butt-type contact switches are similar to the Canopy Series, except they have molded bakelite base. Low operating force. Available with standard metal button, snap-on red or black plastic button, concave metal button, or grooved shaft which accepts snap-on button. Concave button is brass with bright nickel finish. Snap-on buttons must be ordered separately for grooved switches; see table elsewhere on these Arrow Hart pages. Solder lug terminals. Slotted bushing, 15/32" dia., 9/16" long. UL listed, 3 amps at 125 VAC; 1 amp at 250 VAC. SPST circuit.

Arrow Hart No.	Action	Button Style	List Each
80511	On-(Off)	Standard	$2.48
80541	On-(Off)	Black	2.75
80541R	On-(Off)	Red	2.75
80541L	On-(Off)	Grooved*	2.48
80511C	On-(Off)	Concaved	2.94
80511E	Off-(On)	Standard	2.48
80541E	Off-(On)	Black	2.75
80541ER	Off-(On)	Red	2.75
80541EL	Off-(On)	Grooved*	2.48
80511CE	Off-(On)	Concaved	2.94

()Momentary action. *For user-assembled snap-on buttons, grooved switch style must be used.



83090



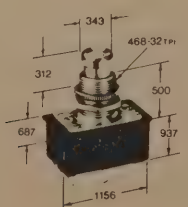
Standard metal button.

SERIES 094—WIPING ACTION CONTACTS (3 AMPS AC/DC)

Space-saving switches with quick-make, quick-break wiping action contacts. Ideal for low-level AC/DC switching. Silver-plated bronze contacts. Solder lug terminals. Slotted bushing, 15/32" dia., 1/2" long. Available with standard metal button or grooved shaft which accepts snap-on button; snap-on button must be ordered separately. UL listed, 3 amps at 125 V AC/DC; 1 amp at 250 V AC/DC. Suffix C in Arrow Hart No. indicates "grooved" switch; no suffix indicates standard metal button.

Arrow Hart No.	Circuit	Action	List Each
83090	SPST	Off-(On)	$3.98
83090C*	SPST	Off-(On)	3.98
83093C*	DPST	Off-(On)	5.43
83094C*	DPDT	Off-(On)	5.92

()Momentary action. *For user-assembled snap-on buttons, grooved style must be used.



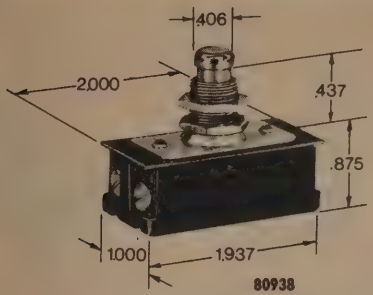
CLASSIC SERIES 087—WIPING ACTION CONTACTS (6 AMPS AC/DC)

Equivalent to Series 015 toggle switches. Maximum reliability in both power and low-level circuits. Solder lug terminals. Slotted bushing, 15/32" dia., 15/32" long. Standard metal button. UL listed, 6 amps at 125 V AC/DC; 3 amps at 250 V AC/DC, except as noted.

Arrow Hart No.	Circuit	Action	List Each
81081G	SPDT	Off-(On)	$4.90
81084G	DPST	Off-(On)	5.82
81087J	DPDT	Off-(On)	7.10

()Momentary action.

Pushbutton & Rotary Switches



80938

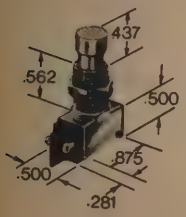
SERIES 630 MEDIUM-DUTY AND 938 HEAVY-DUTY 16-20 AMPS AC/DC

Medium and heavy duty, general purpose switches with wiping action contacts. Slotted bushing, 15/32" dia., 7/16" long. Screw terminals. Standard metal button. Off-(On) action.

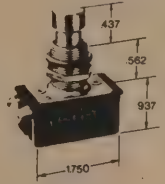
Arrow Hart No.	Circuit	Amps, AC/DC @125 V	Amps, AC/DC @250 V	List Each
	630 SERIES			
80631	SPST	16†	8†	$7.06
80630	DPST	16†	8†	7.06
	938 SERIES			
80938	DPST	20*	10*	$8.90

()Momentary action. †Rated 1 hp at 125-250 V AC/DC. *Rated 1 1/2 at 125-250 V AC/DC.

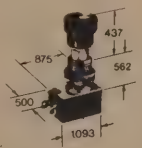
DOUBLE-ACTION PUSH-PUSH SWITCHES



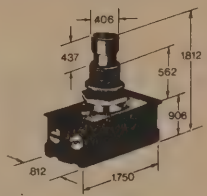
80711



SERIES 117
81117



SERIES 403
82403-C



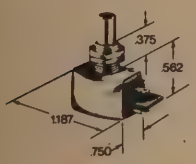
SERIES 863
80863

Arrow Hart No.	Circuit	Rated Amps, AC/DC @125 V	Rated Amps, AC/DC @250 V	List Each
	CANOPY SERIES			
80711	SPDT	3	1	$5.98
80714	DPDT	3	1	7.42
	SERIES 403			
82403	SPST	6	3	$3.20
82403C	SPST	6	3	3.80
82403CL‡	SPST	6	3	3.20
82404*	SPST	6	3	3.65
82405†	SPST	6	3	3.65
82405CL†‡	SPST	6	3	3.65

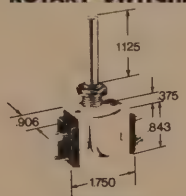
Arrow Hart No.	Circuit	Rated Amps, AC/DC @125 V	Rated Amps, AC/DC @250 V	List Each
	SERIES 117			
81117	DPDT	6	3	$6.15
	SERIES 863			
80863†	DPST	16♦	8♦	$7.70

‡For user assembled snap-on buttons, grooved style switch must be used. *6-inch wire leads. †Screw terminals. ♦Rated 1 hp at 125-250 V AC/DC.

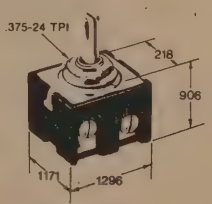
ROTARY SWITCHES



CANOPY SERIES
1561B



SERIES 715
81721J



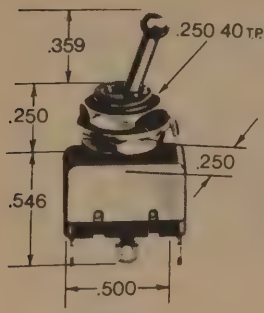
SERIES 702
70302A

Time-proven, 2-position, rotary switches, suitable for a wide variety of applications, from low level up to 2 hp at 240 volts. Exposed metal parts are bright nickel. Dielectric breakdown exceeds 1000 V rms. Standard hardware includes 2 hex nuts (unassembled). Bushing dia., 11/32".

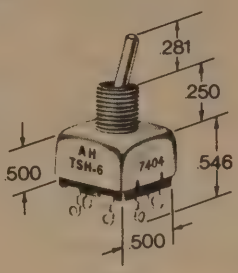
Arrow Hart No.	Circuit	Action	Amps, AC/DC @125 V	Amps, AC/DC @250 V	Bushing, Ins. Dia.	Bushing, Ins. Length	Shaft, Ins. Dia.	Shaft, Ins. Length	Terminals	List Each
			CANOPY SERIES							
1561B	SPST	Off-On	3	1	11/32	3/8	1/4	3/8	Solder	$4.00
1561BS	SPST	Off-On	3	1	11/32	3/8	1/4	1 1/8	Solder	4.00
1575VA	SPST	On-On	3	1	11/32	3/8	1/4	1/2	Solder	8.36
			SERIES 715							
81715	SPST	Off-On	6	1	11/32	3/8	1/4	3/8	Solder	$4.92
81715J	SPST	Off-On	6	1	11/32	3/8	1/4	1 1/8	Solder	4.92
81721J	SPDT	On-On	6	1	11/32	3/8	1/4	1 1/8	Solder	5.53
81727	DPDT	On-On	6	1	11/32	3/8	1/4	3/8	Solder	7.18
81727J	DPDT	On-On	6	1	11/32	3/8	1/4	1 1/8	Solder	7.18
			SERIES 702							
70302A	DPST	Off-On	20	20	15/32	7/32	1/4	11/16	Screw	$7.82

SUBMINIATURE SWITCHES & MOUNTING HARDWARE

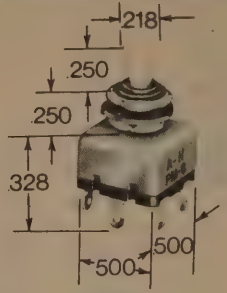
SUBMINIATURE TOGGLE AND PUSHBUTTON SWITCHES



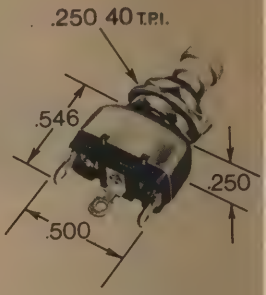
TSH3



TSH6



PM6
PM7
PM8



PM3

Quality grade subminiature toggle and momentary-action pushbutton switches are ideally suited for applications requiring highest standards of quality. Gold-plated contacts permit dependable use in low-level circuits, especially where long shelf life is critical. Not currently UL listed; information on applications requiring UL listings on request. Exposed metal parts are gold-anodized aluminum. Dielectric breakdown exceeds 1000 V rms. Gold-plated silver button type contacts. Movable contact arm of rhodium-plated silver. Gold-plated terminals. Molded diallyl pythalate base. **Contact Mechanism:** TS type, knee action; TC, TE, TG and TM types, rocker action; PM type, leaf blade with wiping action; PMQ type, snap action, butt type. **Terminals:** Solder lug; PC terminals available on request. **Ratings:** Toggle types, 5 amps at 125 VAC or 29 VDC; pushbutton types, 1 amp at 125 VAC; 2 amps at 29 VDC, except as noted. 1/4" dia. slotted bushing, 1/4" long. Standard hardware includes 2 gold-anodized hex nuts, 1 lockwasher and 2 locating rings (unassembled); additional hardware available (see listing below).

SERIES SMT TOGGLE SWITCHES (SINGLE AND DOUBLE POLE)

Arrow Hart No.	Action	List Each
SPDT STRAIGHT LEVER		
TSH3	On-On	$10.36
TCH3	On-Off-On	10.36
TEH3	(On)-Off-On	11.05
TGH3	(On)-Off-(On)	10.23
TMH3	(On)-On	10.23
SPDT—BALL LEVER		
TS3	On-On	$10.36
TC3	On-Off-On	10.36
TE3	(On)-Off-On	10.23
TG3	(On)-Off-(On)	10.23
TM3	(On)-On	10.23
DPST—STRAIGHT LEVER		
TSH3	Off-On	$11.75
DPST—BALL LEVER		
TS2	Off-On	$11.33
DPDT—STRAIGHT LEVER		
TSH6	On-On	$13.48
TCH6	On-Off-On	13.48
TEH6	(On)-Off-On	17.29
TGH6	(On)-Off-(On)	17.29
TMH6	(On)-On	17.29
DPDT—BALL LEVER		
TS6	On-On	$13.48
TC6	On-Off-On	13.48
TE6	(On)-Off-On	17.29
TG6	(On)-Off-(On)	16.51
TM6	(On)-On	17.29

( )Momentary action.

SMP SERIES PUSHBUTTON SWITCHES (SINGLE, DOUBLE AND THREE POLE)

Colored pushbutton caps available; see listing elsewhere on these Arrow Hart pages. Standard cap color is white. Two cap sizes available; .218" dia. (standard) and 3/8" dia.

Arrow Hart No.	Circuit	Action	List Each
PM3	SPDT	On-(On)	$ 9.88
PM6	DPDT	On-(On)	12.13
PM7	3PDT	Off-(On)	16.07
PM8	3PDT	On-(On)	16.07
PMQ3	SPDT	On-(Off)	11.23

( )Momentary action.

MOUNTING HARDWARE FOR SUBMINIATURE SWITCHES

Arrow Hart No.	Material	Finish	List Each
STANDARD HEX NUT			
81019-1	Brass	.....	$0.12
81099-1BF	Aluminum	Gold anodized	.12
81099-1BE	Aluminum	Clear anodized	.12
STANDARD KNURLED NUT			
18569-1BF	Aluminum	Gold anodized	$0.25
18569-1BE	Aluminum	Clear anodized	.25
DRESS NUT			
18569-1	Steel	Stainless	$0.25
18569-2BF	Aluminum	Gold anodized	.25
18569-2BE	Aluminum	Clear anodized	.25

Arrow Hart No.	Material	Finish	List Each
LOCKWASHER—INTERNAL TOOTH			
95091-111	Steel	Zinc	$0.10
LOCKING RING—LONG TAB			
18533-4	Steel	Zinc	$0.13

SUBMINIATURE SWITCH ACCESSORIES & MILITARY SWITCHES

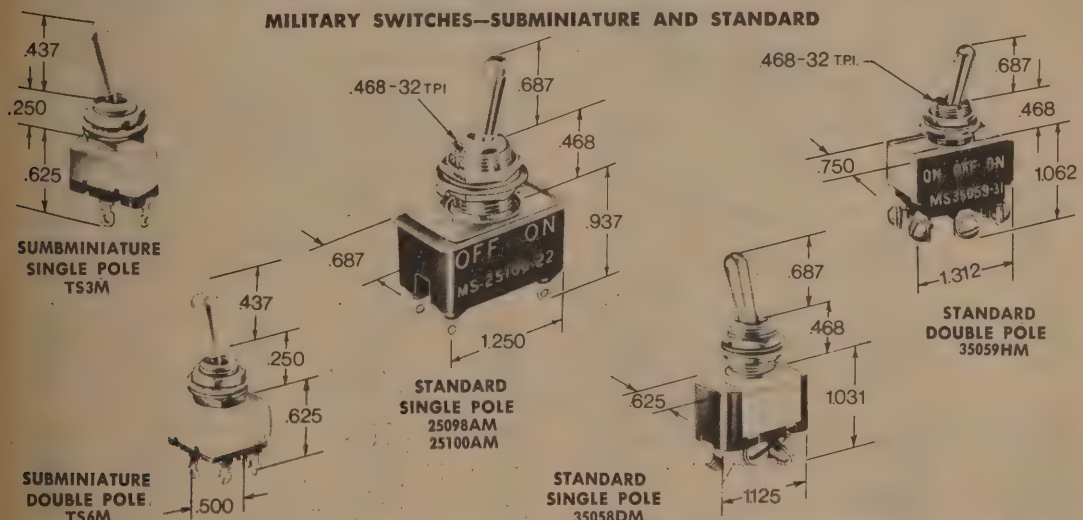
LEVER ADAPTERS FOR SUBMINIATURE TOGGLE SWITCHES

Arrow Hart No.	Color	Each List
18500-11	White	$0.30
18500-13	Blue	.30
18500-14	Red	.30
18500-16	Green	$0.33
18500-17	Brown	.33
18500-18	Black	.33

PUSHBUTTON CAPS FOR SUBMINIATURE PUSHBUTTON SWITCHES

Arrow Hart No.	Cap Color	List Each
	.218" DIAMETER	
18567-61	White (natural)	$0.33
18567-62	Black	.33
18567-63	Blue	.33
18567-64	Red	.33
18567-65	Yellow	.33
18567-66	Green	.33
18567-67	Brown	.33
	3/8" DIAMETER	
18567-71	White (natural)	$0.33
18567-72	Black	.33
18567-73	Blue	.33
18567-74	Red	.33
18567-75	Yellow	.33
18567-76	Green	.33
18567-77	Brown	.33

MILITARY SWITCHES—SUBMINIATURE AND STANDARD



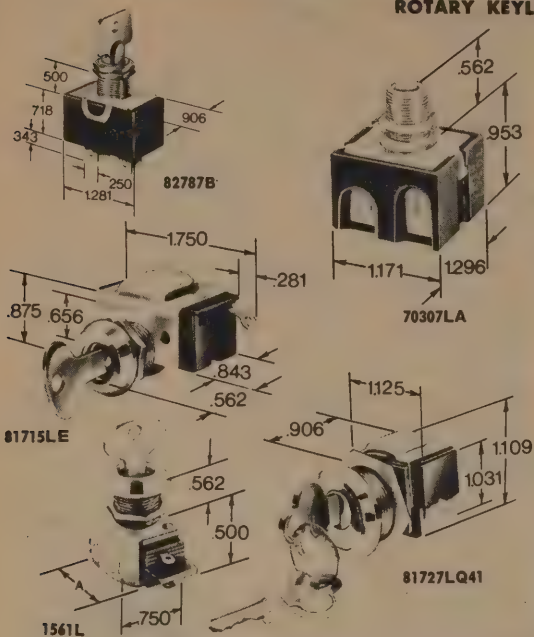
Manufactured to meet requirements of military specification MIL-S-83731. Supplied with two hex nuts, one locating ring and one shake-proof lockwasher (assembled). Solder lug terminals, unless otherwise noted.

Arrow Hart No.	Military Number MS-	Action	List Each
	SUMBMINIATURE—SINGLE POLE		
TS1M	75028-22	On-none-On	$10.36
TC3M	75028-21	On-Off-On	10.23
TE3M	75028-31	(On)-Off-On	11.33
TG3M	75028-27	(On)-Off-(On)	11.33
TM3M	75028-26	(On)-none-On	11.33
TS3M	75028-23	On-none-On	10.23
	SUBMINIATURE—DOUBLE POLE		
TS2M	75029-22	On-none-On	$12.03
TC6M	75029-21	On-Off-On	12.70
TE6M	75029-31	(On)-Off-On	15.01
TG6M	75029-27	(On)-Off-(On)	15.01
TM6M	75029-26	(On)-none-On	15.01
TS6M	75029-23	On-none-On	12.70
	STANDARD—SINGLE POLE		
25098AM	25098-22	On-none-Off	$5.86
25098BM	25098-29	On-none-(Off)	7.63
25098CM	25098-30	Off-none-(On)	7.63
25098DM	25098-23	On-none-On	6.66
35058EM†	35058-21	On-none-On	5.39
35058WM†	35058-22	On-none-Off	4.86
35058DM†	35058-23	On-none-On	5.39
35058AM†	35058-24	On-Off-none	$4.86
35058CM†	35058-25	On-(Off)-none	7.51
35058FM†	35058-26	On-none-(On)	5.97
35058GM†	35058-27	(On)-Off-(On)	5.97
35058BM†	35058-28	none-Off-(On)	5.81
35058XM†	35058-29	On-none-(Off)	5.31
35058YM†	35058-30	Off-none-(On)	5.28
35058HM†	35058-31	On-Off-(On)	6.07
	STANDARD—DOUBLE POLE		
25100AM	25100-22	On-none-Off	$8.43
25100DM	25100-23	On-none-On	9.26
25100BM	25100-29	On-none-(Off)	9.93
25100CM	25100-30	Off-none-(On)	9.93
35059EM†	35059-21	On-Off-On	7.55
35059WM†	35059-22	On-none-Off	6.91
35059DM†	35059-23	On-none-On	7.55
35059AM†	35059-24	On-Off-none	6.91
35059CM†	35059-25	On-(Off)-none	10.04
35059FM†	35059-26	On-none-(On)	9.61
35059GM†	35059-27	(On)-Off-(On)	9.98
35059BM†	35059-28	none-Off-(On)	9.40
35059XM†	35059-29	On-none-(Off)	10.04
35059YM†	35059-30	Off-none-(On)	9.40
35059HM†	35059-31	On-Off-(On)	9.40

†Screw terminals, assembled. ( )Momentary action.

Rotary Keylock Switches

ROTARY KEYLOCK SWITCHES



CANOPY SERIES (3 AMPS AC/DC)

Power switches offer all the features of the non-locking Canopy Series plus the addition of a locking mechanism for circuit security applications. Can be used for controlled access of a wide variety of electrical equipment. Stationary contacts and movable (roller) contacts are silver-plated brass. Laminated bakelite base construction. Tin-dipped brass, slotted bushing, 9/16" dia., 15/32" long. Zinc chromate-plated steel frame. Supplied with one nickel-plated steel key. Solder lug terminals. Rated 3 amps at 125 V AC/DC; 1 amp at 250 V AC/DC. Standard-security level.

INTERMEDIATE SERIES 715L (6 AMPS AC/DC)

This series of power switch is an extension of the Canopy line and features higher ratings (6 amps) and wiping contacts. Available in standard-security level and high-security level versions. Standard-security level versions are used to prevent unauthorized actuation of computers, data processing equipment and electronic instrumentation. High-security level tumbler lock switches are widely used in hospital, business machine, banking, stationary power tool and alarm system applications. Both series ideally suited for applications requiring a locking switch capable of handling either power or low-energy loads. Wiping blade contact mechanism. Silver-plated brass stationary contacts. Silver-plated bronze movable contacts. Bakelite base construction. Tin-dipped brass slotted bushing. Nickel-plated brass dress nut (supplied). Zinc chromate-plated steel frame. One nickel-plated steel key supplied with standard-security versions; two brass keys with high-security versions. Solder lug terminals.

HEAVY DUTY SERIES 702L (20 AMPS AT 120-240 VAC)

Heavy-duty series combines high-reliability switching, heavy-duty circuit protection and maximum economy. Typical applications include gasoline pumps, heating and cooling systems, etc. Slow make and break contacts. Butt-type silver contacts. Choice of 2 or 4 positions. Rated 20 amps, 1 1/2 hp at 125 VAC; 20 amps, 2 hp at 240 VAC. Bakelite base. Tin-dipped brass bushing, 15/32" dia. Available with quick-connect terminals (No. 82787B) or screw terminals (No. 70307LA). Standard-security level. DPST circuit. Key removable position, Off.

Arrow Hart No.	Security Level	Circuit	Action	Bushing, Ins. Dia.	Bushing, Ins. Length	Key Removable Position	Key Style Fig.	Net Each, Lots of
CANOPY SERIES—2 POSITION								
1561L	Standard	SPST	Off-On	15/32	9/16	Off	A	$6.96
1561LE	Standard	SPST	Off-On	15/32	9/16	Both	B	6.96
1565	Standard	SPDT	On-On	15/32	9/16	Both	B	7.12
1572L	Standard	DPST	Off-On	15/32	9/16	Off	A	8.84
1575L	Standard	DPDT	On-On	15/32	9/16	Both	B	8.84
INTERMEDIATE SERIES—2 POSITION								
81715L	Standard	SPST	Off-On	15/32	9/16	Off	A	$6.24
81715LE	Standard	SPST	Off-On	15/32	9/16	Both	B	6.24
81715LQ61	High	SPST	Off-On	7/8	45/64	Off	C	23.92
81715LQ41	High	SPST	Off-On	7/8	45/64	Both	C	23.92
81721L	Standard	SPDT	On-On	15/32	9/16	Both	A	6.35
81721LQ61	High	SPDT	On-On	7/8	45/64	C.C. On	C	25.08
81721LQ41	High	SPDT	On-On	7/8	45/64	Both	C	25.08
81724L	Standard	DPST	Off-On	15/32	9/16	Off	A	8.28
81724LC	Standard	DPST	Off-On	15/32	9/16	Both	B	8.28
81724LQ61	High	DPST	Off-On	7/8	45/64	Off	C	26.29
81724LQ41	High	DPST	Off-On	7/8	45/64	Both	C	26.29
81727L	Standard	DPDT	On-On	15/32	9/16	Both	A	8.40
81724LQ61	High	DPDT	On-On	7/8	45/64	C.C. On	C	27.38
81727LQ41	High	DPDT	On-On	7/8	45/64	Both	C	27.38
HEAVY DUTY SERIES								
82787B†	Standard	DPST	Off-On-Off-On	15/32	15/32	Off	D	$7.36
70307LA*	Standard	DPST	Off-On	15/32	9/16	Off	A	7.82

†4-position; Q.C terminals. *2-position; screw terminals.

LOCKING BRACKETS FOR TOGGLE SWITCHES

Locking brackets provide flexible way to convert toggle switches to rotary switches. **Standard-Security Level:** Tin-dipped steel construction; 15/32" bushing dia., 32 TPI thread; supplied with two hex nuts and one nickel-plated key (No. 80600-686). **High-Security Level:** Tin-dipped brass bushing, 7/8" dia., 24 TPI; supplied with nickel-plated brass dress nut and hex nut and two keys (No. 82787-55).

Arrow Hart No.	Key Removable Position	List Each
STANDARD SECURITY		
80600-1027†	All positions	$4.38
80600-1037*	Vertical	4.38
HIGH SECURITY		
8947-400	C.C.W.	$13.75
HIGH SECURITY (CONT'D.)		
8947-401	Center	$13.75
8947-404	Either extreme	13.75
8947-405	C.W.	13.75
8947-406	C.C.W.♦	13.75
8947-407	Any one of three	13.75

†Key way not slotted. *Key way slotted opposite yoke. ♦When using AC only, momentary, single-throw toggle switch.

CROUSE-HINDS

ARROW HART DIVISION

Snap-In Rocker Switches

SNAP-IN ROCKER SWITCHES (LIGHTED AND NON-LIGHTED)

LIGHTED



Single Pole



Double Pole

NON-LIGHTED



Single Pole



Double Pole

Compact snap-in rocker switches and matching indicator lights. Choice of color. Slow make and break action. Choice of single pole (Series 1600) or double pole (Series 2600). Complete European approvals. UL, CSA, UTE, BS, VDE, SEMKO, SF and DEMKO listed, 16 amps at 250 VAC. Specified in electronic Instrumentation and on medical, data processing, telecommunication and duplicating equipment. A wide variety of circuits for designers and engineers.

SPECIFICATIONS

Operation: Rocker lever action; slow make-break; 2 and 3 position maintained; 2 position momentary; with or without illumination. **Function:** 1600 Series, SPST and SPDT; 2600 Series, DPST and DPDT. **Mounting:** Snaps into rectangular cutout; molded latches retain switch. High grade Nylon 66 base and actuator. **Weight:** 1600 Series, 6 grams; 2600 Series, 12 grams. **Contact Rating:** 16 amps at 250 VAC. **Dielectric Voltage:** 1000 V rms across contacts. **Insulation Resistance:** 50 megohms. **Electrical Life:** 10,000 cycles min. at rated voltage and current. **Mechanical Life:** 50,000 cycles min. **Temperature Range:** −40° C to +85° C. **Lamp Specifications:** Average life, 25,000 hours for neon (110 V); 50,000 hours for filament (6 V); 0.9 watts at 6 V. **Max. Panel Thickness:** .118". Special options include special voltage lamps, hot stamp legends, special color bezels and actuators, wire leads and solder lugs.

NON-LIGHTED ROCKER SWITCHES

Basic Switch No.	Circuit	Action	List Each
SINGLE POLE			
1600	SPST	Off-On	$1.06
1601	SPST	Off-(On)	1.18
1602	SPDT	On-On	1.29
1603	SPDT	On-(On)	1.51
1604	SPDT	On-Off-On	1.29
DOUBLE POLE			
2600	DPST	Off-On	$1.95
2601	DPST	Off-(On)	2.18
2602	DPDT	On-On	2.07
2603	DPDT	On-(On)	2.57
2604	DPDT	On-Off-On	2.07

( )Momentary contact.

SUFFIX CODES

Bezel Color	Translucent Actuator Color	Termination
1—Black 2—White 3—Red	1—Black 2—White 3—Red	E—.250" QC

HOW TO ORDER

1602 2 3 E

(A) (B) (C) (D)

(A) **Basic Switch No.:** See table above.

(B) **Bezel Color:**
1—Black
2—White
3—Red

(C) **Actuator Color:**
1—Black
2—White
3—Red

(D) **Termination:**
E—.250" QC

LIGHTED ROCKER SWITCHES

Circuit	Action	Basic Neon Switch No.	List Each	Basic Filament Switch No.	List Each
SINGLE POLE					
SPST	Off-On	1600	$1.06	1620*	$2.26
SPST	Off-(On)	1601	1.18	1621*	2.51
SPDT	On-Off-On	1624*	3.02	1624*	3.02
DOUBLE POLE					
DPST	Off-On	2600	$1.95	2600	$1.95
DPST	Off-(On)	2601	2.18	2601	2.18

( )Momentary action. *On 2-pole base; not available with translucent green actuator.

SUFFIX CODES

Translucent Actuator Color	Lamp Voltage‡	Bezel Color	Termination
A—Amber G—Green† R—Red W—Clear	1—110 V (Neon) 4—6 V (Fil.)	1—Black 2—White 3—Red	E—.250" QC

†All SPST switches ordered with translucent green actuator supplied on a single-pole base, with lamp tube. ‡Not necessary when ordering basic switch number 1600, 1601, 1620 or 1621.

HOW TO ORDER

2600 R 4 2 E

(A) (B) (C) (D) (E)

(A) **Basic Switch No.:** See table above.

(B) **Translucent Actuator Color:**
A—Amber
G—Green
R—Red
W—Clear

(C) **Lamp Voltage (Type):**
1—110 V (Neon)
4—6 V (Filament)

(D) **Bezel Color**
1—Black
2—White
3—Red

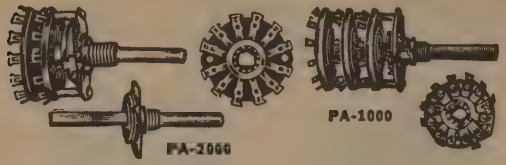
(E) **Termination:**
E—.250" QC

LIGHTED INDICATOR

Available with amber (A) or red (R) translucent lens, 110 V neon lamp, black bezel and .250" QC terminals.

Arrow Hart No.	Lens Color	List Each
1609A11E	Amber	$1.40
1609R11E	Red	1.40

Rotary Switches



SERIES PA-2000 MINIATURE CERAMIC SWITCHES

Insulation material ceramic, MIL-I-10A, Grade L-422 Steatite, only 1½" diam. (⅜" smaller than standard switches). Same ratings as larger switches. Features maximum voltage flashover; high Q, low-loss steatite body; minimum intercircuit capacity; insulated front-back clips. Durable construction. **Ratings:** 1.5 amps at 28 VDC; .23 amp at 115 VAC; make-break resistive load. **Breakdown:** 1500 VAC rms between critical parts. **Current Capacity:** 9 amps. One-piece shaft for accurate indexing. Adjustable stop or continuous rotation; mounts in single hole with locating lug. **Bushing:** ⅜"-32 thread, ⅜" long. **Shaft:** Full round ¼" diam. x 2¼" long from mounting surface. Supplied with mounting nut and lockwasher. **Shipping Weight:** 3 ozs. per section.

SERIES PA-1000 MINIATURE PHENOLIC SWITCHES

Insulation material phenolic, standard NEMAXXXP, MIL-P-3115P, Type BPEP. Same size as PA-2000 ceramic switches. **Ratings:** 1.5 amps at 28 VDC; .23 amp at 115 VAC. **Breakdown:** 1500 VAC. **Current Capacity:** 9 amps. **Positive, adjustable stop or continuous rotation:** 30° or 60° detents available. **Shipping Weight:** 3 ozs. per section.

MINIATURE ROTARY SWITCHES

No. Sect.	Total No. Poles	PA-2000 Ceramic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.
1	1	2000	2001	2–12	1000	1001	2–11
1	2	2002	2003	2–6	1002	1003	2–5
2	2	2004	2005	2–12	1004	1005	2–11
1	3	2006	2007	2–5	1006	1007	2–3
3	3	2008	2009	2–12	1008	1009	2–11
1	4	.....	.....	.....	1010	1011	2
2	4	2010	2011	2–6	1012	1013	2–5
4	4	2012	2013	2–12	1014	1015	2–11
1	5	2014	2015	2–3	.....	.....	.....
5	5	2016	2017	2–12	1016	1017	2–11
1	6	2018	2019	2	.....	.....	.....
2	6	2020	2021	2–5	1018	1019	2–3
3	6	2022	2023	2–6	1020	1021	2–5
6	6	2024	2025	2–12	1022	1023	2–11
2	8	.....	.....	.....	1024	1025	2
4	8	2026	2027	2–6	1026	1027	2–5
3	9	2028	2029	2–5	.....	.....	.....
3	12	.....	.....	.....	1028	1029	2
2	10	2030	2031	2–3	.....	.....	.....
5	10	2032	2033	2–6	1030	1031	2–5
2	12	2034	2035	2	.....	.....	.....
6	12	2036	2037	2–6	1032	1033	2–5
3	15	2038	2039	2–3	.....	.....	.....
3	18	2040	2041	2	.....	.....	.....

SPECIAL CIRCUIT AND 60° INDEXING SWITCHES

1	1	2052*	.....	2–10	1034*	.....	2–10
1	1	2042†	.....	2–10	1040†	.....	2–10
1	1	.....	2043‡	2–6	.....	1035‡	2–6
2	2	.....	2045‡	2–6	.....	1037‡	2–6

*All shorted to common in full CCW, progressively opened and dropped with CW rotation. †All open in full CCW, progressively picked up and shorted to common with CW rotation. ‡60° Indexing; 1½" spacing between sections.

SEPARATE SECTIONS

For use with 30° index assemblies No. PA-300, PA-301 and PA-302, except Nos. PA-17, PA-20 and PA-45, for use with 60° index assemblies PA-304 and PA-305.

Ask for Section Pricing.

No. Poles	Indexing	PA-2000 Ceramic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.	PA-1000 Phenolic CRL No. PA- Shtg.	Non-Shtg.	Total Pos.
1	30°	0	1	2–12	30	31	2–11
2	30°	2	3	2–6	32	33	2–5
3	30°	4	5	2–5	34	35	2–3
4	30°	.....	.....	.....	36	37	2
5	30°	6	7	2–3	.....	.....	.....
6	30°	8	9	2	.....	.....	.....
1	30°	10*	19*	2–5	38*	39*	2–5
2	30°	11†	18†	2–11	40†	41†	2–11
1	30°	12§	.....	2–10	43‡	.....	2–10
1	30°	13‡	.....	2–10	49§	.....	2–10
1	60°	20	17	2–6	.....	45	2–6

*Unused contacts one side of common connected and shorted out. †All unused contacts connected and shorted out. ‡Active contacts shorted to common in full CCW, progressively opened and dropped with CW rotation. §All active contacts open in full CCW, progressively picked up and shorted to common with CW rotation.

SILVER CLIPS AND CONTACTS (CERAMIC)

Ask for Section Pricing.

CRL Number Shorting	Non-Shorting	Index	No. of Poles	No. of Positions
PA-16	PA-21	30°	1	2–12
PA-14	PA-23	30°	2	2–6
PA-15	PA-24	30°	4	2

INDUSTRIAL NET PRICES

CRL No.	Shorting Net Each, Lots of 1-24	25-49	50-99	CRL No.	Non-Shorting Net Each, Lots of 1-24	25-49	50-99
SERIES PA-2000 CERAMIC							
PA-2000	$ 7.70	$ 7.05	$ 6.59	PA-2001	$ 7.58	$ 6.95	$ 6.49
PA-2002	7.75	7.10	6.64	PA-2003	7.75	7.10	6.64
PA-2004	12.07	11.06	10.34	PA-2005	12.07	11.06	10.34
PA-2006	8.05	7.37	6.89	PA-2007	8.10	7.42	6.94
PA-2008	16.68	15.28	14.29	PA-2009	16.68	15.28	14.29
PA-2010	12.49	11.44	10.70	PA-2011	12.49	11.44	10.70
PA-2012	20.88	19.13	17.88	PA-2013	21.29	19.51	18.23
PA-2014	8.33	7.63	7.14	PA-2015	8.47	7.76	7.25
PA-2016	25.90	23.73	22.18	PA-2017	25.90	23.73	22.18
PA-2018	8.22	7.53	7.04	PA-2019	8.22	7.53	7.04
PA-2020	12.91	11.83	11.05	PA-2021	12.91	11.83	11.05
PA-2022	17.10	15.67	14.64	PA-2023	17.10	15.67	14.64
PA-2024	30.09	27.57	25.77	PA-2025	30.09	27.57	25.77
PA-2026	21.29	19.51	18.23	PA-2027	21.29	19.51	18.23
PA-2028	17.94	16.43	15.36	PA-2029	17.94	16.43	15.36
PA-2030	13.74	12.59	11.77	PA-2031	13.74	12.59	11.77
PA-2032	26.74	24.50	22.89	PA-2033	26.74	24.50	22.89
PA-2034	13.74	12.59	11.77	PA-2035	13.74	12.59	11.77
PA-2036	31.36	28.73	26.86	PA-2037	31.36	28.73	26.86
PA-2038	19.19	17.58	16.43	PA-2039	19.19	17.58	16.43
PA-2040	19.19	17.58	16.43	PA-2041	18.77	17.20	16.07
PA-2042	7.63	6.99	6.54	PA-2043	7.11	6.52	6.09
PA-2052	7.50	6.87	6.42	PA-2045	11.66	10.68	9.98
SERIES PA-1000 PHENOLIC							
PA-1000	$ 4.63	$ 4.24	$ 3.96	PA-1001	$ 4.63	$ 4.24	$ 3.96
PA-1002	4.68	4.28	4.00	PA-1003	4.68	4.28	4.00
PA-1004	6.13	5.62	5.25	PA-1005	6.13	5.62	5.25
PA-1006	4.63	4.24	3.96	PA-1007	4.63	5.62	5.25
PA-1008	7.65	7.01	6.55	PA-1009	7.65	7.01	6.55
PA-1010	4.56	4.18	3.90	PA-1011	4.56	4.18	3.90
PA-1012	6.16	5.65	5.28	PA-1013	6.16	5.65	5.28
PA-1014	9.10	8.34	7.79	PA-1015	9.10	8.34	7.79
PA-1016	12.54	11.49	10.74	PA-1017	12.54	11.49	10.74
PA-1018	6.16	5.65	5.28	PA-1019	6.16	5.65	5.28
PA-1020	7.70	7.05	6.59	PA-1021	7.70	7.05	6.59
PA-1022	10.99	10.07	9.41	PA-1023	12.19	11.17	10.44
PA-1024	5.43	4.97	4.65	PA-1025	6.16	5.65	5.28
PA-1026	9.15	8.38	7.84	PA-1027	9.15	8.38	7.84
PA-1028	6.78	6.21	5.81	PA-1029	7.70	7.05	6.59
PA-1030	10.74	9.84	9.19	PA-1031	10.74	9.84	9.19
PA-1032	11.46	10.50	9.81	PA-1033	12.32	11.29	10.55
PA-1034	4.12	3.78	3.53	PA-1035	4.38	4.01	3.75
PA-1040	4.68	4.28	4.00	PA-1037	5.79	5.31	4.96

SEPARATE INDEX ASSEMBLIES

Index assemblies for series PA-1000 and PA-2000 interchangeable.

CRL No. PA-3000 Assembly—Contains PA-300 (30°) index, adjustable stop plate, two ⅛" spacers, two 9/32" spacers, four 7/16" spacers, 2½" tie bolts, nuts, lockwashers and fiber spacer washers. Rear shaft length 2". Use with 1 to 3 sections.

CRL No. PA-301 Assembly—Contains PA-301 index (30°), adjustable stop plate, two ⅛" spacers, two 9/32" spacers, ten 7/16" spacers, four 1 5/16" spacers, 5" tie bolts and hardware. Rear shaft length 4". Use with 4 to 6 sections.

CRL No. PA-302 Assembly—Contains PA-302 (30°) index, adjustable stop plate, four 3/16" spacers, two 9/32" spacers, sixteen 7/16" spacers, eight 1 5/16" spacers, 7" tie bolts, and hardware. Rear shaft length 6". Use with 7 to 9 sections.

CRL No. PA-304 Assembly—Contains PA-304 (60°) index and hardware same as PA-300. Rear shaft length 2". Use with 1 to 3.

CRL No. PA-305 Assembly—Contains PA-305 (60°) index and hardware same as PA-301. Rear shaft length 4". 4 to 6 sections.

CRL No.	Indexing	Net Each 1-24	25-49	50-99
PA-300	30°	$2.92	$2.68	$2.50
PA-301	30°	4.28	3.92	3.66
PA-302	30°	6.01	5.51	5.15
PA-304	60°	2.92	2.68	2.50
PA-305	60°	4.28	3.92	3.66

PACKAGED SWITCH HARDWARE
FOR PA-1000 & PA-2000 SERIES MINIATURE SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-319	Min. stop plate	11.00	P-362	1" screw	$17.00
P-325	1/16" steatite spacer	6.00	P-370	2" screw	17.00
P-326	1/8" steatite spacer	6.00	P-374	2½" screw	24.00
P-328	¼" steatite spacer	6.00	P-382	4" screw	25.00
P-329	5/16" steatite spacer	6.00	P-384	5" screw	32.00
P-330	3/8" steatite spacer	6.00	P-388	7" screw	39.00
P-334	7/16" steatite spacer	6.00	P-390	Nut	3.00
P-350	1 5/16" steatite spacer	12.00	P-392	Lockwasher	3.00
			P-394	Phen. spacer washer	3.00

ROTARY AND LEVER SWITCHES



2500 Series · 1400 Series · 1460 · 1461 · 1462 · 1472-3 · 1486 · 1452

SERIES 2500 CERAMIC ROTARY SWITCHES

Highest quality (Grade L-422 or better) steatite insulation. Meet critical requirements of RF circuit applications. Bushing ⅜"-32 thread ⅜" long. Shaft 2¼" long, ¼" full round. Sections 1⅞" dia. Positive index 30° with adjustable stop. Index assemblies and hardware are identical and interchangeable with those of the 1400 Series. Rated: 2.75 amps, 15 VDC; 350 mA, 115 VAC. Breakdown, 1500 VAC between critical parts. Shipping Weight, 5 oz. per section.

SERIES 1400 PHENOLIC ROTARY SWITCHES

Extremely compact design. Mounting bushings ⅜"-32 thread, ⅜" long. Shafts 2¼" from mtg. surface; ¼" full round. Sections 1⅞" dia. Positive 30° index with adjustable stop. With mounting nut and lockwasher. Index assemblies and hardware are identical and interchangeable with those of 2500 series. Rated: 2.75 amps at 15 VDC; 350 mA at 115 VAC. Breakdown, 1000 VAC rms. Shipping Weight, 4 oz. per section.

ROTARY SELECTOR SWITCHES

Ceramic Types CRL Number		No. Sections	Total No. Poles	No. Positions	Phenolic Types CRL Number	
Shorting	Non-Short.				Shorting	Non-Short.
2500	2501	1	1	2–6	1400	1401
2502	2503	1	1	2–11	1402	1403
2504	2505	1	2	2–5	1404	1405
2510	2511	2	2	2–6	1410	1411
2512	2513	2	2	2–11	1412	1413
2506	2507	1	3	2–3	1406	1407
2520	2521	3	3	2–6	1420	1421
2522	2523	3	3	2–11	1422	1423
.....	.....	1	4	2	1408	1409
2514	2515	2	4	2–5	1414	1415
.....	.....	4	4	2–6	1426	1427
.....	.....	4	4	2–11	1428	1429
2516	2517	2	6	2–3	1416	1417
2524	2525	3	6	2–5	1424	1425
.....	.....	2	8	2	1418	1419
.....	.....	4	8	2–5	1430	1431

SEPARATE SECTIONS

Deluxe Types: .187" rotor slot, use P-270, P-271, P-272 indexes.

Ceramic Types CRL Number				Phenolic Types CRL Number	
Shorting	Non-Short.	No. Poles	No. Positions	Shorting	Non-Short.
TD	XD	1	2–6	AD	HD
UD	YD	1	2–11	BD	JD
RD	RRD	2	2–5	CD	KD
SD	SSD	3	2–3	DD	LD
VD	ZD	4	2	ED	MD
.....	.....	4	2–3	EED	BBD
GGD*	FFD*	1	2–11	GD*	CCD*
PISD‡	.....	1	2–10	PID‡	.....

*All unused contacts connected and shorted out. ‡9 contacts, open in full CW, progressively picked up and shorted to common with CWW rotation.

SEPARATE INDEX ASSEMBLIES

Deluxe Type: 1-piece shaft .187" thick flat; use deluxe 1400 or 2500 Series sections. Complete assembly has index and hardware. **No. P-270:** For 1–3 sections; 2" rear shaft. **No. P-271:** 3–5 sects.; 4" rear shaft. **No. P-272:** 5–10 sects.; 8" rear shaft.

INDUSTRIAL NET PRICES
CERAMIC SWITCHES, SECTIONS

CRL NO.	Net Each, Lots of			CRL No.	Net Each, Lots of		
	1-24	25-49	50-99		1-24	25-49	50-99
2500	$ 7.62	$ 6.98	$ 6.52	2501	$ 7.58	$ 6.95	$ 6.49
2502	7.98	7.31	6.84	2503	7.98	7.31	6.84
2504	8.27	7.57	7.08	2505	8.20	7.51	7.02
2506	8.10	7.42	6.94	2507	8.38	7.68	7.18
2510	12.09	11.08	10.35	2511	11.67	10.69	10.00
2512	12.49	11.44	10.70	2513	12.89	11.81	11.04
2514	12.89	11.44	11.04	2515	12.89	11.81	11.04
2516	10.77	9.87	9.22	2517	13.31	12.19	11.40
2520	16.55	15.16	14.17	2521	16.15	14.80	13.83
2522	14.60	13.37	12.50	2523	17.77	16.28	15.22
2524	15.05	13.79	12.88	2525	18.17	16.65	15.56

INDEX ASSEMBLIES

CRL Number	Net Each, Lots of		
	1-24	25-49	50-99
P-270	$3.57	$3.27	$3.06
P-271	4.19	3.84	3.59
P-272	6.35	5.81	5.43

CRL No.	Net Each, Lots of			CRL No.	Net Each, Lots of		
	1-24	25-49	50-99		1-24	25-49	50-99
1400	$ 4.78	$ 4.38	$ 4.09	1401	$ 4.78	$ 4.38	$ 4.09
1402	5.23	4.79	4.48	1403	5.23	4.79	4.48
1404	5.38	4.93	4.60	1405	5.38	4.93	4.60
1406	4.88	4.47	4.18	1407	5.51	5.05	4.72
1408	5.63	5.16	4.82	1409	5.63	5.16	4.82
1410	6.38	5.84	5.46	1411	6.38	5.84	5.46
1412	6.93	6.35	5.93	1413	6.93	6.35	5.93
1414	7.16	6.56	6.13	1415	7.16	6.56	6.13
1416	6.60	6.04	5.65	1417	7.48	6.85	6.41
1418	7.58	6.95	6.49	1419	7.58	6.95	6.49
1420	7.77	7.11	6.65	1421	7.77	7.11	6.65
1422	8.83	8.09	7.56	1423	8.83	8.09	7.56
1424	10.67	9.78	9.14	1425	10.67	9.78	9.14
1426	9.37	8.58	8.02	1427	9.47	8.68	8.11
1428	11.31	10.36	9.68	1429	11.31	10.36	9.68
1430	9.89	9.06	8.47	1431	9.89	9.06	8.47
AD	1.49	1.36	1.27	HD	1.64	1.50	1.40
BD	2.19	2.00	1.87	JD	2.19	2.00	1.87
BBD	3.87	3.55	3.32	EED	3.87	3.55	3.32
CD	2.17	1.99	1.86	KD	2.39	2.19	2.04
CCD	2.71	2.48	2.32	GD	2.71	2.48	2.32
DD	2.40	2.20	2.06	LD	2.64	2.42	2.26
ED	2.67	2.45	2.29	MD	2.94	2.69	2.52
PID	1.79	1.64	1.53				

SPRING-RETURN ROTARY SWITCHES

Laminated phenolic insulation. Rated: 1.5 amps, 28 VDC; 230 mA, 115 VAC. Breakdown, 1500 VAC rms. Bushing ⅜"-32 thread, ⅜" long. Shaft ¼" dia., 2¼" long. Shipping Weight, 3 oz.

CRL No.	No. Poles	No. Pos.	Net Each			100/Pkg.
			1-24	25-49	50-99	100-Up
1451*†	4	2	$5.76	$5.28	$4.93	$3.87
1488*†	6	3	7.48	6.85	6.41	5.04
1489*‡	6	3	7.48	6.85	6.41	5.04

*Non-shorting. †Spring return. ‡Combination positive and spring return index.

GENERAL PURPOSE ROTARY SWITCHES

Laminated phenolic insulation. Rated: 1.5 amps, 28 VDC; 230 mA, 115 VAC. Breakdown, 1000 VAC rms. Bushing ⅜"-32 thread, ⅜" long except 1484, ¼". Positive index unless otherwise noted.

CRL No.	No. Poles	No. Pos.	Net Each			100/Pkg.
			1-24	25-49	50-99	100-Up
1460	1	2	$2.96	$2.71	$2.53	$1.98
1461	1	3	3.21	2.94	2.75	2.16
1462	2	2	3.44	3.15	2.95	2.32
1472*	2	3	3.64	3.34	3.12	2.45
1473	2	3	3.64	3.34	3.12	2.45
1484♯	1	3	3.16	2.89	2.70	2.12
1486•	2	3	3.62	3.32	3.10	2.44

*Non-shorting; all others shorting. ♯Remote auto radio spkr. switch. •Remote stereo spkr. switch.

LEVER ACTION SWITCHES

Mounted singly or in groups on special plates; adaptable to intercoms, PA, test instruments, broadcast, industrial applications. Positive and/or spring return index design with shtg. or non-shtg. contacts. Laminated phenolic insulation; clips and contacts, silver-plated brass. Rated 1.5 A at 28 VDC, 230 mA at 115 VAC. Two-hole mtg. bkt. supplied with 6-32 tapped holes. Single switch ⅛" w. x 1⅛" h. x 1½" d. behind panel. With mtg. hdwe. Shpg. Wt., 4 oz.

CRL No.					Net Each			100/Pkg.
Shorting	Non-Shorting	No. Poles	No. Pos.	Index	1-24	25-49	50-99	100-Up
1452	.....	2	3	Pos.	$4.02	$3.69	$3.45	$2.71
.....	1454	2	3	Pos.	3.94	3.61	3.37	2.65
1453	.....	2	3	Sp.	3.92	3.60	3.36	2.64
.....	1455	2	3	Sp.	3.96	3.63	3.39	2.67
1466	.....	2	3	Pos.,	4.07	3.73	3.49	2.73
.....	1467	2	3	Pos.,	3.96	3.63	3.39	2.67
1456	.....	4	2	Sp.	4.49	4.12	3.85	3.02
.....	1457	4	2	Sp.	4.56	4.18	3.98	3.07
1459	1458	4	2	Pos.	4.38	4.01	3.75	2.95

PACKAGED SWITCH HARDWARE FOR 1400 AND 2500 SERIES SWITCHES

CRL No.	Description	Pkg. 100	CRL No.	Description	Pkg. 100
P-124	¼" metal spacer	$3.00	P-149	4¼" screw	$26.00
P-125	⅜" metal spacer	3.00	P-143	5" screw	54.00
P-126	½" metal spacer	3.00	P-145	7" screw	56.00
P-127	¾" metal spacer	3.00	P-146	9" screw	59.00
P-128	1" metal spacer	3.00	P-147	Nut	3.00
P-136	1" screw	20.00	P-148	Lockwasher	3.00
P-137	1½" screw	20.00	P-177	Phenol. spacer wshr.	5.00
P-138	2" screw	20.00	P-187	¼" steatite spacer	11.00
P-139	2½" screw	20.00	P-189	½" steatite spacer	11.00
			P-192	1" steatite spacer	17.00

FOR PA-6000 SERIES MILITARY SWITCHES

P-395	Min. MIL screw	24.00	P-397	Min. MIL lockwasher	$3.00
P-396	Min. MIL nut	3.00	P-398	MIL spacer washer	3.00

FOR PS-100 SERIES SUBMINIATURE SWITCHES

P-515	1⅛" screw	18.00	P-521	3/32" steatite spacer	$5.00
P-516	Nut	3.00	P-522	1/16" steatite spacer	5.00
P-519	Spacer washer	3.00	P-523	3/16" steatite spacer	5.00
P-520	⅛" steatite spacer	5.00	P-527	Lockwasher	3.00

MIL-S-3786 STYLE SR03 MINIATURE CERAMIC SWITCHES

Designed to meet MIL-S-3786. Insulated with Grade L-422, or better, steatite, Dow Corning 200 Silicone treated against surface moisture. Breakdown, 1000 VAC rms between critical parts. Coin silver clips and contacts; hot tin-dipped terminals. Adjustable stops or continuous rotation on 30° index. Ceramic sections 1⅛" dia. x .125" th. Single hole mounting with locating lug at 17/64" radius. Bushing, ⅜"-32NEF-2A threaded, ⅜" lg. from mtg. surface. Shaft ¼" dia. full round, 2¼" lg. from mtg. surface. With nut and lockwasher. Rating: 450 mA at 115 VAC; 8 amps, 6 VDC; 5.5 amps, 12 VDC (make-break resistive load).

SERIES PA-6000 SWITCHES

CRL Number		Poles to	No.	No.	No.
Shorting	Non-Short	Section	Sections	Poles	Positions
PA-6000	PA-6001	1	1	1	2–11
PA-6002	PA-6003	2	1	2	2–5
PA-6004	PA-6005	1	2	2	2–11
PA-6006	PA-6007	3	1	3	2–3
PA-6010*	PA-6011*	4	1	4	2
PA-6012	PA-6013	2	2	4	2–5
PA-6018	PA-6019	3	2	6	2–3
PA-6024*	PA-6025*	4	2	8	2

*Fixed, 2-position stop.

SEPARATE INDEX ASSEMBLY

CRL No. PA-600—Used with PA-60, or PA-80 separate sections to assemble special units of 1 to 4 sections; 30° indexing. Rear shaft 2" long.

SEPARATE SECTIONS, 30° INDEXING

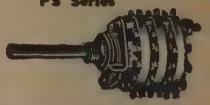
Used with PA-600 index assembly. Hot solder-dipped terminals. Coin silver clips and contacts. Switch sections are 1⅜2" dia. and rated 1000 VAC rms breakdown between critical parts. Phenolic units .062" thick; others .125" thick.

		Phenolic Secs.		Ceramic Secs.	
Total Poles	No. Pos.	Short-ing	Non-Short.	Short-ing	Non-Short.
1	2–11	PA-60	PA-61	PA-80	PA-81
2	2–5	PA-62	PA-63	PA-82	PA-83
3	2–3	PA-64	PA-65	PA-84	PA-85
4	2	PA-66	PA-67	PA-86	PA-87

INDUSTRIAL NET PRICES

CRL	Net Each, Lots of			CRL	Net Each, Lots of		
No.	1-24	25-49	50-99	No.	1-24	25-49	50-99
PA-6000	$13.46	$12.36	$11.61	PA-6001	$13.46	$12.36	$11.61
PA-6002	13.46	12.36	11.61	PA-6003	13.46	12.36	11.61
PA-6004	22.48	20.65	19.39	PA-6005	22.48	20.65	19.39
PA-6006	13.86	12.73	11.95	PA-6007	13.86	12.73	11.95
PA-6010	13.86	12.73	11.95	PA-6011	13.86	12.73	11.95
PA-6012	22.90	21.04	19.75	PA-6013	22.90	21.04	19.75
PA-6018	23.71	21.79	20.45	PA-6019	23.71	21.79	20.45
PA-6024	24.13	22.17	20.81	PA-6025	24.13	22.17	20.81
PA-600	4.14	3.79	3.55	.....	.....	.....	.....
PA-60	4.34	3.98	3.74	PA-61	4.34	3.98	3.74
PA-62	3.64	3.34	3.12	PA-63	4.46	4.10	3.85
PA-64	3.74	3.43	3.20	PA-65	4.59	4.22	3.96
PA-66	3.91	3.58	3.35	PA-67	3.91	3.58	3.35
PA-80	7.82	7.19	6.75	PA-81	7.82	7.19	6.75
PA-82	6.98	6.40	5.98	PA-83	8.16	7.50	7.04
PA-84	8.46	7.78	7.30	PA-85	8.46	7.78	7.30
PA-86	7.45	6.82	6.38	PA-87	8.70	8.00	7.51

PS Series





PA Series

MULTIPLE POSITION SWITCHES

Laminated phenolic insulation, type PBE per MIL-P-3115. Voltage breakdown between critical parts 1000 VAC, rms. Bushing ⅜" thd., ⅜" lg. Shaft ¼" dia., 2¼" lg. from mtg. surface. **PA-3000 Series**—18 position. Rated 2.25 amps, 28 VDC; 350 mA, 115 VAC (make-break resistive load). Provides accurate, crisp indexing in both single and multiple-section versions through use of hill-and-dale index. Sections 2 1/64" w. x 2⅝" h. x 1/16" thick. Positive 20° indexing. **PA-4000 Series**—24 position. Rated 2.75 amps, 28 VDC; 230 mA, 115 VAC. Sections 1¼" w. x 2⅝" h. x 1/16" thick. Shpg. Wt., 4 oz. per section.

CRL No. PA-				Net Each			
Short.	Non-Short.	*	No. Pos.	1-24	25-49	50-99	100/Pkg. 100-Up
3000	3001	1	2–17	$ 7.20	$ 6.59	$ 6.16	$ 4.74
3002	3003	2	2–17	11.42	10.47	9.78	7.53
3004	3005	3	2–17	15.41	14.12	13.20	10.16
3006	3007	4	2–17	17.40	15.94	14.90	11.47
4000	4001	1	2–23	7.13	6.53	6.11	4.69
4002	4003	2	2–23	10.35	9.49	8.87	6.82
4004	4005	3	2–23	12.68	11.61	10.85	8.35
4006	4007	4	2–23	15.53	14.23	13.30	10.24

*Number of poles and number of sections.

SERIES PS SUBMINIATURE ROTARY SWITCHES

Deluxe, ceramic insulated rotary switches that are ultra-small. Weigh less than 1 oz. each, yet have the same electrical ratings as switches much heavier and larger. Ideally suited for band switching, transistor circuits, aircraft instruments, etc. Insulation is Dow Corning 200 Silicone treated Grade L-422, or better, steatite; breakdown, 750 VAC rms between critical parts. **Size:** ½" thick ceramic sections and ceramic spacers; spacing between front plate and first section, 1/8". All hardware except clips, contacts, and index spring are of cadmium plated steel. **Mounting:** Single hole with optional locating lug on ⅜" radius. Bushing ¼"-32 thread, ¼" long. Shaft ⅛" dia. x 1¼" long. **Rated:** Make and break, resistance load .550 amp at 28 volts DC, 170 milliamps at 115 VAC. **Index:** Positive 30°; fixed stop.

CRL Number		Total	No.		No.	CRL Number		Total	No.		No.
*	†	Poles	Pos.	‡	Sec.	*	†	Poles	Pos.	‡	Sec.
PS-100	PS-101	1	11	1	1	PS-112	PS-113	4	2	4	1
PS-102	PS-103	2	11	1	2	PS-114	PS-115	6	5	2	3
PS-104	PS-105	2	5	2	1	PS-116	PS-117	6	3	3	2
PS-106	PS-107	3	11	1	3	PS-118	PS-119	8	2	4	2
PS-108	PS-109	3	3	3	1	PS-120	PS-121	9	3	3	3
PS-110	PS-111	4	5	2	2	PS-122	PS-123	12	2	4	3

*Shorting. †Non-shorting. ‡Poles per section.

SERIES PS SEPARATE SECTIONS (CONTINUED)

Ceramic* CRL No.		Phenolic* CRL No.		Total	No.	Fixed Stop Indexing
Short.	Non-Short.	Short.	Non-Short.	Poles	Pos.	
PS-20	PS-21	PS-40	PS-41	1	11	
PS-22	PS-23	PS-42	PS-43	2	5	Use P-501
PS-24	PS-25	PS-44	PS-45	3	3	thru P-511
PS-26	PS-27	PS-46	PS-47	4	2	

*Breakdown voltage, 750 VAC rms.

SEPARATE INDEX ASSEMBLIES

Designed for maximum of three sections. Includes: Index and shaft assembly; hardware and instructions.

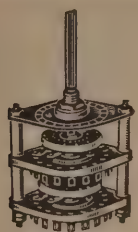
CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.	CRL No.	No. of Pos.
P-501	2	P-504	5	P-507	8	P-510	11
P-502	3	P-505	6	P-508	9	P-511	Continuous Rotation
P-503	4	P-506	7	P-509	10		

INDUSTRIAL NET PRICES

CRL	Shorting Net Each, Lots of			CRL	Non-Shorting Net Each, Lots of		
No.	1-24	25-49	50-99	No.	1-24	25-49	50-99
PS-100	$ 9.13	$ 8.37	$ 7.82	PS-101	$ 9.13	$ 8.37	$ 7.82
PS-102	14.04	12.87	12.03	PS-103	14.04	12.87	12.03
PS-104	9.80	8.98	8.39	PS-105	9.80	8.98	8.39
PS-106	18.57	17.01	15.90	PS-107	18.57	17.01	15.90
PS-108	10.02	9.18	8.58	PS-109	10.02	9.18	8.58
PS-110	14.85	13.60	12.71	PS-111	14.85	13.60	12.71
PS-112	10.67	9.78	9.14	PS-113	10.67	9.78	9.14
PS-114	19.46	17.82	16.66	PS-115	19.46	17.82	16.66
PS-116	15.36	14.08	13.16	PS-117	15.36	14.08	13.16
PS-118	14.35	13.14	12.28	PS-119	16.50	15.12	14.13
PS-120	18.37	16.83	15.73	PS-121	21.13	19.35	18.09
PS-122	22.70	20.79	19.43	PS-123	22.70	20.79	19.43
PS-20	4.23	3.87	3.62	PS-21	4.23	3.87	3.62
PS-22	4.69	4.30	4.02	PS-23	4.69	4.30	4.02
PS-24	4.91	4.50	4.20	PS-25	4.91	4.50	4.20
PS-26	5.28	4.83	4.52	PS-27	5.28	4.83	4.52
PS-40	2.69	2.46	2.30	PS-41	2.69	2.46	2.30
PS-42	2.96	2.71	2.53	PS-43	2.96	2.71	2.53
PS-44	3.41	3.12	2.92	PS-45	3.41	3.12	2.92
P-501 through P-508					4.53	4.15	3.88

Rotary Switches


PSA Series


Series JV-9000


Ham Switch

SERIES PSA SUBMINIATURE ROTARY SWITCHES

atures an index mechanism with adjustable stops. Rugged, ball-starwheel lateral thrust construction for excellent torque ntrol. For use in band-switching, ultra small electronic equip-ent, transistor circuits, aircraft instruments, etc. Stator and or have diallyl phthalate insulation; resistance, 900,000 megs. **re:** Furnished with diallyl phthalate sections .203″ ± .005″ thick ross strut holes, .080″ thick across clip surface-to-surface. Spaced ″ between front plate and clip surface of first section and 5/32″ acing between sections. **Mounting:** Bushing, 3/8″-32 NEF thread 1/8″ long; locating lug on 3/8″ radius. Shaft, 1/4″ dia. x 1 3/8″ long m mtg. surface. All hardware plated to resist corrosion; index ring, strut screws and lockwashers stainless steel; clips and rotor ntacts, silver-plated brass. **Rated:** Make and break resistive load 0 A at 28 VDC, 170 mA at 115 VAC. **Index:** Positive 30° with justable stops.

CRL Number		Total Poles	No. of Positions	Poles per Sec.	No. of Sections
Shorting	Non-Shorting				
PSA-200	PSA-201	1	2–12	1	1
PSA-202	PSA-203	2	2–6	2	1
PSA-204	PSA-205	2	2–12	1	2
PSA-206	PSA-207	3	2–5	3	1
PSA-208	PSA-209	3	2–12	1	3
PSA-210	PSA-211	4	2–6	2	2
PSA-214	PSA-215	5	2–3	5	1
PSA-220	PSA-221	6	2–5	3	2
PSA-222	PSA-223	6	2–6	2	3
PSA-228	PSA-229	9	2–5	3	3
PSA-230	PSA-231	10	2–3	5	2
PSA-238	PSA-239	15	2–3	5	3

DIALLYL PHTHALATE SEPARATE SECTIONS

CRL Number		Total Poles	No. Pos.	CRL Number		Total Poles	No. Pos.
Shtg.	Non-Shtg.			Shtg.	Non-Shtg.		
S-50	PS-51	1	2–12	PS-54	PS-55	3	2–5
S-52	PS-53	2	2–6	PS-56	PS-57	5	2–3

INDEX ASSEMBLIES

cludes index, hardware and instructions; PS-20 and PS-40 ctions can also be used.

CRL No.	No. Pos.	No. Sec.	CRL No.	No. Pos.	No. Sec.
SA-512	2–12	1–2	PSA-513	2–12	3–5

INDUSTRIAL NET PRICES

CRL No.	Shorting Net Each, Lots of			CRL No.	Non-Shorting Net Each, Lots of		
	1-24	25-49	50-99		1-24	25-49	50-99
A-200	$ 8.13	$ 7.45	$ 6.96	PSA-201	$ 8.13	$ 7.45	$ 6.96
A-202	8.78	8.05	7.52	PSA-203	8.78	8.05	7.52
A-204	11.71	10.73	10.02	PSA-205	11.71	10.73	10.02
A-206	9.75	8.94	8.35	PSA-207	9.75	8.94	8.35
A-208	16.98	15.56	14.54	PSA-209	16.98	15.56	14.54
A-210	12.49	11.44	10.70	PSA-211	12.49	11.44	10.70
A-214	10.14	9.29	8.68	PSA-215	11.36	10.40	9.72
A-220	14.13	12.94	12.10	PSA-221	14.13	12.94	12.10
A-222	17.47	16.00	14.96	PSA-223	17.47	16.00	14.96
A-228	19.14	17.53	16.39	PSA-229	19.14	17.53	16.39
A-230	14.93	13.68	12.78	PSA-231	16.72	15.32	14.31
A-238	21.48	19.68	18.39	PSA-239	24.05	22.03	20.59
A-512	4.91	4.50	4.20	PSA-513	7.24	6.64	6.21
-50	2.86	2.62	2.45	PS-51	2.86	2.62	2.45
-52	3.49	3.20	2.99	PS-53	3.49	3.20	2.99
-54	3.77	3.46	3.23	PS-55	4.23	3.87	3.62
-56	5.28	4.83	4.52	PS-57	5.91	5.42	5.06

SEPARATE INDEX ASSEMBLIES

luxe 60° Types: 2-piece aft with phenolic rear, metal nt; for high voltage opera-n; use ZZD section for 60°.

CRL No. 60°	Rear Shaft	Suggested No. Sections
P-273	2″	1 to 2
P-274	4 1/4″	3 to 4
P-275	7″	5 to 8

CRL Number	Net Each, Lots of		
	1-24	25-49	50-99
P-273	$6.15	$5.63	$5.26
P-750	7.50	6.87	6.42
P-275	9.35	8.57	8.01

SERIES JV-9000 HEAVY-DUTY POWER SWITCHES

Rotary power switch insulated with Grade L-422, or better, steatite. Rated: 9 amps, 110 VAC; 30 amps, 5 VDC; 15 mA, 2500 VAC. Breakdown, 3000 VAC rms between critical parts. Coin silver contacts; 20° indexing adjustable stop. Mtg. bushing 3/8″-32 thread, 3/4″ long. Sections 2 11/16″ dia. Shpg. Wt., 6 oz per section.

SERIES JV-9000 ROTARY SWITCHES

CRL Number		Poles to Section	No. Sections	No. Poles	No. Positions
Shorting	Non-Shorting				
JV-9000	JV-9001	1	1	1	2–17
JV-9002	JV-9003	3	1	3	2–5
JV-9004	JV-9005	1	2	2	2–17
JV-9006	JV-9007	3	2	6	2–5
JV-9008	JV-9009	1	3	3	2–17
JV-9010	JV-9011	3	3	9	2–5
JV-9012	JV-9013	1	4	4	2–17
JV-9014	JV-9015	3	4	12	2–5
JV-9016	JV-9017	1	5	5	2–17
JV-9018	JV-9019	3	5	15	2–5
JV-9020	JV-9021	1	6	6	2–17
JV-9032	JV-9033	2	1	2	2–8
JV-9034	JV-9035	2	2	4	2–8
JV-9036	JV-9037	2	3	6	2–8
JV-9038	JV-9039	2	4	8	2–8

SERIES JV-9000 SEPARATE SECTIONS

CRL Number		Number Poles	Number Positions
Shorting	Non-Shorting		
JV-8	JVN-8	1	2–17
JV-9	JVN-9	3	2–5
JV-10	JVN-10	2	2–8
JV-18*	JVN-18*	1	2–18

*Rotor has 17 fingers making contact with 17 contacts on stator, leaving one contact open. By cutting off unwanted fingers this section can be adapted to special circuits, e.g., one off, nine progressively shorting positions.

SERIES JV-9000 DIAL PLATES, INDEX ASSEMBLY

CRL Nos. P-230, P-231 or P-232—2 3/4″ dia., etched aluminum on black background; 20°; marked 1-5 for P-230, 1-8 for P-232, and 1-17 for P-231.

CRL No. JV-7 Index Assembly—Includes shaft, tie rods, spacers, nuts and lockwashers, and adjustable stop pin.

INDUSTRIAL NET PRICES

CRL No.	Net Each 1-24	25-49	50-99	100/Pkg. 100-Up
JV-9000 and JV-9001	$34.30	$31.52	$29.59	$23.58
JV-9002 and JV-9003	38.93	35.77	33.58	26.81
JV-9004 and JV-9005	58.80	54.02	50.72	40.56
JV-9006 and JV-9007	67.34	61.87	58.08	46.56
JV-9008 and JV-9009	82.00	75.34	70.73	56.68
JV-9010 and JV-9011	96.78	88.92	83.48	66.98
JV-9012 and JV-9013	108.08	99.30	93.22	74.74
JV-9014 and JV-9015	124.48	114.37	107.36	86.12
JV-9016 and JV-9017	134.35	123.44	115.88	92.92
JV-9018 and JV-9019	146.82	134.89	126.63	106.61
JV-9020 and JV-9021	155.39	142.77	134.03	107.59
JV-9032 and JV-9033	38.14	35.04	32.90	26.26
JV-9034 and JV-9035	65.82	60.48	56.77	45.50
JV-9036 and JV-9037	94.29	86.63	81.32	65.25
JV-9038 and JV-9039	122.50	112.54	105.65	84.84
JV-8	24.67	22.67	21.28	.....
JV-9	28.72	26.39	24.77	.....
JV-10	25.33	23.27	21.85	.....
JV-18	22.91	21.05	19.76	.....
JV-7 Index	11.42	10.47	9.78	.....
JVN-8	26.93	24.74	23.23	.....
JVN-9	31.26	28.72	26.97	.....
JVN-10	27.54	25.30	23.75	.....
JVN-18	25.17	23.12	21.71	.....
P-230 thru P-232	.32	.29	.28	.....

CERAMIC HAM-TYPE SWITCHES

Heavy-duty Grade L-422, or better, steatite insulation for ham applications. Available in 60° index only. All metal parts except clips and contacts are cadmium plated steel; all units have phenolic shaft through switch sections. Positive index with adjustable stop; 60° units have 2 to 6 active positions. Convenient single-hole mounting: 3/8″-32 thread bushing 3/4″ long. Shaft 1/4″ dia., 2 1/4″ long, full round. Rated: 350 milliamps at 115 VAC; 5 milliamps at 1500 VAC; 2.25 amps at 28 VDC, will handle 15 watts; for tubes operating at voltages up to 1 kV and inputs to 150 watts. Unit complete includes mounting nut and lockwasher. Shipping Weight, 4 oz. per section.

NON-SHORTING HAM SWITCHES

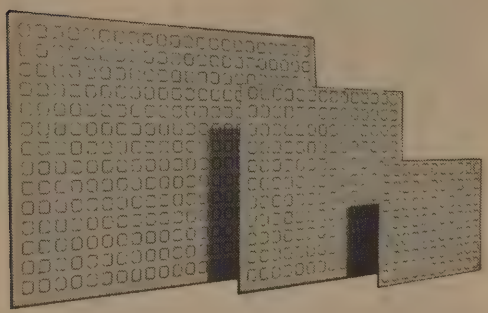
CRL No. 60°	No. Poles*	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100-Up
2550	1	$ 9.90	$ 9.07	$ 8.48	$ 6.59
2551	2	13.69	12.55	11.73	9.10
2552	3	18.85	17.27	16.14	12.56
2553	4	21.53	19.72	18.43	14.34
2554	5	25.37	23.24	21.72	16.90
ZZD†	1	5.61	5.14	4.80	....

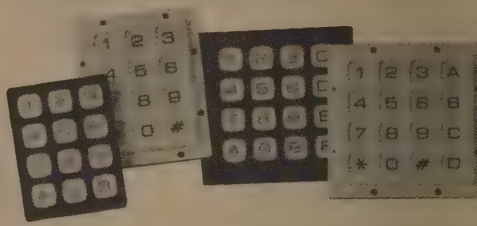
*One pole per section. †Separate section; use with "P" Series index assemblies.

CENTRALAB, INC.
A NORTH AMERICAN PHILIPS COMPANY

Monopanel™ Touch Switches

Monopanel™ touch switches feature highly reliable touch-sensitive membrane technology. The switch assembly contains (A) a flexibl polyester membrane, with or without graphics, and flexible conductors screened on the rear surface; (B) a thin spacer with holes for eac switch provides a .007" air gap; (C) a circuit board with switch circuits on the face joined by plated-through holes to interconnection on the back. The switch closure is momentary, normally open. Light touch pressure on the flexible front panel closes the contact; releas ing pressure allows the front panel to return, opening the contact. **Operating Temperature:** −40° C to +85° C. **Contact Rating:** 50 mA at 30 VDC, resistive load. **Maximum Voltage:** 50 VDC. **Maximum Current:** 100 mA. **Maximum Power:** 1.5 watts. **Contact Resistance** 2 ohms max. at 4 oz. pressure.





PROTOTYPING PANELS

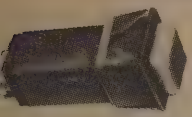
Monopanel™ prototyping panels are ideal for mock-ups when testing touch switch technology for application. Panels are availabie in three sizes: 308, 154, and 77 switch matrixes. Three switch interconnections are offered: one side common, both sides out, and X-Y. Panels are blank and can be easily customized with commercially available graphics. Constructed from a rigid PC board .062" thick with solder pad termination. Panels have a matte polyester finish overlay. A commercial shearing tool can be used to cut panels.

KEYBOARDS

Monopanel™ keyboards are available assembled with standar graphics or unassembled blank with no graphics. Keyboards ar 12 and 16 switch matrixes. Two switch interconnections are offered one side common, and X-Y. Assembled keyboards are marke with black Microgramma 24 pt. lettering on a white background A matte polyester overlay provides an easy-to-read, non glar finish. Boards mount with or without flange. Terminals are .025 pin on .100" centers (typical).

Centralab Model	No. of Switches	Bezel Color	Mtg. Figs.	Nomenclature	Switch Interconnection	Net Each, Lots of 1-24	25-49	50-99	100/Pkg. 100 Up
PROTOTYPING PANELS									
MRP077EA 1100	77	None	None	Blank	1 side common,	$ 48.00	$ 39.00	.....	.....
MRP077EA 1200	77	None	None	Blank	both sides out,	48.00	39.00	.....	.....
MRP077EA 1300	77	None	None	Blank	X-Y	48.00	39.00	.....	.....
MRP154EA 1100	154	None	None	Blank	1 side common,	85.00	68.00	.....	.....
MRP154EA 1200	154	None	None	Blank	both sides out,	85.00	68.00	.....	.....
MRP154EA 1300	154	None	None	Blank	X-Y	85.00	68.00	.....	.....
MRP308EA 1100	308	None	None	Blank	1 side common,	150.00	120.00	.....	.....
MRP308EA 1200	308	None	None	Blank	both sides out,	150.00	120.00	.....	.....
MRP308EA 1300	308	None	None	Blank	X-Y	150.00	120.00	.....	.....
KEYBOARDS									
MRK012 AB2100	12	Black	No	Alpha-Numeric	1 side common	$ 8.90	$ 8.40	$7.85	$6.55
MRK012 AD2100	12	Black	Yes			8.90	8.40	7.85	6.55
MRK012 AC2100	12	White	No			8.90	8.40	7.85	6.55
MRK012 AE2100	12	White	Yes			8.90	8.40	7.85	6.55
MRK012 BB2100	12	Black	No	Blank	1 side common	8.90	8.40	7.85	6.55
MRK012 BD2100	12	Black	Yes			8.90	8.40	7.85	6.55
MRK012 BC2100	12	White	No			8.90	8.40	7.85	6.55
MRK012 BE2100	12	White	Yes			8.90	8.40	7.85	6.55
MRK012 BB2300	12	Black	No	Blank	X-Y	8.90	8.40	7.85	6.55
MRK012 BD2300	12	Black	Yes			8.90	8.40	7.85	6.55
MRK012 BC2300	12	White	No			8.90	8.40	7.85	6.55
MRK012 BE2300	12	White	Yes			8.90	8.40	7.85	6.55
MRK012 CB2300	12	Black	No	Telephone Format	X-Y	8.90	8.40	7.85	6.55
MRK012 CD2300	12	Black	Yes			8.90	8.40	7.85	6.55
MRK012 CC2300	12	White	No			8.90	8.40	7.85	6.55
MRK012 CE2300	12	White	Yes			8.90	8.40	7.85	6.55
MRK016 AB2100	16	Black	No	Alpha-Numeric	1 side common	10.75	10.25	9.75	8.20
MRK016 AD2100	16	Black	Yes			10.75	10.25	9.75	8.20
MRK016 AC2100	16	White	No			10.75	10.25	9.75	8.20
MRK016 AE2100	16	White	Yes			10.75	10.25	9.75	8.20
MRK016 BB2100	16	Black	No	Blank	1 side common	10.75	10.25	9.75	8.20
MRK016 BD2100	16	Black	Yes			10.75	10.25	9.75	8.20
MRK016 BC2100	16	White	No			10.75	10.25	9.75	8.20
MRK016 BE2100	16	White	Yes			10.75	10.25	9.75	8.20
MRK016 BB2300	16	Black	No	Blank	X-Y	10.75	10.25	9.75	8.20
MRK016 BD2300	16	Black	Yes			10.75	10.25	9.75	8.20
MRK016 BC2300	16	White	No			10.75	10.25	9.75	8.20
MRK016 BE2300	16	White	Yes			10.75	10.25	9.75	8.20
MRK016 CB2300	16	Black	No	Telephone Format	X-Y	10.75	10.25	9.75	8.20
MRK016 CD2300	16	Black	Yes			10.75	10.25	9.75	8.20
MRK016 CC2300	16	White	No			10.75	10.25	9.75	8.20
MRK016 CE2300	16	White	Yes			10.75	10.25	9.75	8.20

554 SERIES BEZEL MOUNT



Contact resistance, 50 milliohms. Insulation resistance, 1000 megohms at 500 VDC. Max. voltage, 30 VDC or 125 VAC. Solder blade quick connect terminations. Snap action. UL listed and CSA approved. Uses T-1 3/4 incandescent bulb with midget flanged base.

MOMENTARY ACTION SWITCHES

Type No.	Accepts Cap Size	Desc.	Net Each, Lots of 1-9	10-24	25-99	100-249
54-1121-111	1/2" sq.	SPDT 500 mA to 7 A	$4.64	$4.10	$3.36	$2.83
54-1121-211	5/8" sq.		5.20	4.59	3.76	3.19
54-1121-311	5/8" × 3/4"		5.20	4.59	3.76	3.19
54-1121-411	3/4" sq.		5.20	4.59	3.76	3.19
54-1121-511	3/4" × 1"		5.20	4.59	3.76	3.19
54-1221-111	1/2" sq.	DPDT 500 mA to 7 A	5.38	4.75	3.88	3.28
54-1221-211	5/8" sq.		6.03	5.32	4.35	3.70
54-1221-311	5/8" × 3/4"		6.03	5.32	4.35	3.70
54-1221-411	3/4" sq.		6.03	5.32	4.35	3.70
54-1221-511	3/4" × 1"		6.03	5.32	4.35	3.70
54-2121-111	1/2" sq.	SPDT 15 mA to 1 A	5.26	4.63	3.80	3.21
54-2121-211	5/8" sq.		5.89	5.19	4.26	3.62
54-2121-311	5/8" × 3/4"		5.89	5.19	4.26	3.62
54-2121-411	3/4" sq.		5.89	5.19	4.26	3.62
54-2121-511	3/4" × 1"		5.89	5.19	4.26	3.62
54-2221-111	1/2" sq.	DPDT 15 mA to 1 A	6.11	5.39	4.41	3.73
54-2221-211	5/8" sq.		6.84	6.04	4.94	4.20
54-2221-311	5/8" × 3/4"		6.84	6.04	4.94	4.20
54-2221-411	3/4" sq.		6.84	6.04	4.94	4.20
54-2221-511	3/4" × 1"		6.84	6.04	4.94	4.20
54-3121-111	1/2" sq.	SPDT 1 mA to 100 mA *	4.64	4.10	3.36	2.83
54-3121-211	5/8" sq.		5.20	4.59	3.76	3.19
54-3121-311	5/8" × 3/4"		5.20	4.59	3.76	3.19
54-3121-411	3/4" sq.		5.20	4.59	3.76	3.19
54-3121-511	3/4" × 1"		5.20	4.59	3.76	3.19
54-3221-111	1/2" sq.	DPDT 1 mA to 100 mA *	5.38	4.75	3.88	3.28
54-3221-211	5/8" sq.		6.03	5.32	4.35	3.70
54-3221-311	5/8" × 3/4"		6.03	5.32	4.35	3.70
54-3221-411	3/4" sq.		6.03	5.32	4.35	3.70
54-3221-511	3/4" × 1"		6.03	5.32	4.35	3.70

ALTERNATE ACTION SWITCHES

54-1131-211	5/8" sq.	SPDT 500 mA to 7 A	$5.89	$5.19	$4.26	$3.62
54-1131-311	5/8" × 3/4"		5.89	5.19	4.26	3.62
54-1131-411	3/4" sq.		5.89	5.19	4.26	3.62
54-1131-511	3/4" × 1"		5.89	5.19	4.26	3.62
54-1231-211	5/8" sq.	DPDT 500 mA to 7 A	6.84	6.04	4.94	4.20
54-1231-311	5/8" × 3/4"		6.84	6.04	4.94	4.20
54-1231-411	3/4" sq.		6.84	6.04	4.94	4.20
54-1231-511	3/4" × 1"		6.84	6.04	4.94	4.20
54-2131-211	5/8" sq.	SPDT 15 mA to 1 A	6.72	5.91	4.85	4.14
54-2131-311	5/8" × 3/4"		6.72	5.91	4.85	4.14
54-2131-411	3/4" sq.		6.72	5.91	4.85	4.14
54-2131-511	3/4" × 1"		6.72	5.91	4.85	4.14
54-2231-211	5/8" sq.	DPDT 15 mA to 1 A	7.81	6.90	5.64	4.80
54-2231-311	5/8" × 3/4"		7.81	6.90	5.64	4.80
54-2231-411	3/4" sq.		7.81	6.90	5.64	4.80
54-2231-511	3/4" × 1"		7.81	6.90	5.64	4.80
54-3131-211	5/8" sq.	SPDT 1 mA to 100 mA *	5.89	5.19	4.26	3.62
54-3131-311	5/8" × 3/4"		5.89	5.19	4.26	3.62
54-3131-411	3/4" sq.		5.89	5.19	4.26	3.62
54-3131-511	3/4" × 1"		5.89	5.19	4.26	3.62
54-3231-211	5/8" sq.	DPDT 1 mA to 100 mA *	6.84	6.04	4.94	4.20
54-3231-311	5/8" × 3/4"		6.84	6.04	4.94	4.20
54-3231-411	3/4" sq.		6.84	6.04	4.94	4.20
54-3231-511	3/4" × 1"		6.84	6.04	4.94	4.20

Wiping Action

MATCHING INDICATORS

Type No.	Accepts Cap Size	Net Each, Lots of 1-9	10-24	25-99
54-0001-111	1/2" sq.	$2.82	$2.54	$2.09
54-0001-211	5/8" sq.	3.16	2.84	2.34
54-0001-311	5/8" × 3/4"	3.16	2.84	2.34
54-0001-411	3/4" sq.	3.16	2.84	2.34
54-0001-511	3/4" × 1"	3.16	2.84	2.34

LENS CAPS FOR BEZEL OR PANEL MOUNT SWITCHES

Type No.*	Cap Size	Color*	Net Each, Lots of 1-9	10-24	25-99
24-0071	1/2" sq.	Red	$0.71	$0.59	$0.51
25-0071	5/8" sq.	Red	.71	.59	.51
26-0071	5/8" × 3/4"	Red	.71	.59	.51
27-0071	3/4" sq.	Red	.71	.59	.51
28-0071	3/4" × 1"	Red	.71	.59	.51

Change last digit of Part Number to indicate color desired: red, 2 green, 3 amber, 4 white.

554 SERIES PANEL MOUNT



UL/CSA listed. Operating life, 250,000 operations momentary; 100,000 operations alternate action. Contact resistance, 50 milliohms, max. Dielectric withstanding, 1250 VAC. Current ratings listed below are at 30 VDC or 125 VAC, max. Uses T-1 3/4 bulb with midget flanged base, incandescent.

MOMENTARY ACTION SWITCHES

Type No.	Amps	Circuit	Net Each, Lots of 1-9	10-24	25-99
554-1121	500 mA to 7 A	SPDT	$4.51	$3.99	$3.27
554-1221	500 mA to 7 A	DPDT	5.34	4.70	3.85
554-2121	15 mA to 1 A	SPDT	5.20	4.59	3.76
554-2221	15 mA to 1 A	DPDT	6.15	5.44	4.45
554-3121	1 mA to 100 mA	SPDT	4.51	3.99	3.27
554-3221	1 mA to 100 mA	DPDT	5.34	4.70	3.85

ALTERNATE ACTION SWITCHES

554-1131	500 mA to 7 A	SPDT	$5.20	$4.59	$3.76
554-1231	500 mA to 7 A	DPDT	6.15	5.44	4.45
554-2131	15 mA to 1 A	SPDT	6.03	5.32	4.35
554-2231	15 mA to 1 A	DPDT	7.13	6.28	5.15
554-3131	1 mA to 100 mA	SPDT	5.20	4.59	3.76
554-3231	1 mA to 100 mA	DPDT	6.15	5.44	4.45

MATCHING INDICATOR BASE

Type No.	Net Each, Lots of 1-9	10-24	25-99
554-0001	$2.48	$2.24	$1.84

ILLUMINATED PUSHBUTTON SWITCHES

913 SERIES LED HIGH BRIGHTNESS SWITCHES

Operates from 5 VDC supply at 20 mA max. (For DC voltages other than 5 V, an external resistor is required). Momentary action. Rated 0.1 A at 125 VAC and 30 VDC, noninductive. Gold plated contact parts. Mounts from back of panel in 3/8" hole for 1/8" panel thickness. UL listed.

Type No.*	Color	Action	Net Each, Lots of 1-9	10-24	25-99
913-1551-1631-525	Red	N.O.	$6.91	$5.87	$5.11
913-1552-1631-525	Red	N.C.	6.91	5.87	5.11
913-1553-1631-525	Red	T.C.	7.29	6.18	5.38
913-1601-1632-525	Green	N.O.	7.61	6.45	5.64
913-1602-1632-525	Green	N.C.	7.61	6.45	5.64
913-1603-1632-525	Green	T.C.	8.00	6.80	5.92
913-1604-1633-525	Yellow	N.O.	7.61	6.45	5.64
913-1605-1633-525	Yellow	N.C.	7.61	6.45	5.64
913-1606-1633-525	Yellow	T.C.	8.00	6.80	5.92

MATCHING INDICATOR BASE

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
911-1112-525	$2.87	$2.40	$2.10	$1.79

CAPS FOR ABOVE BASE

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
911-1631	Red	$0.83	$0.67	$0.62	$0.53
911-1632	Green	.83	.67	.62	.53
911-1633	Amber	.83	.67	.62	.53
911-1635	White	.83	.67	.62	.53

922 SERIES SWITCHES

SPST momentary N.O. switches rated 0.1 A at 125 VAC and 30 VDC, non-inductive. Over 1,000,000 operations at rated values. Gold plated contact parts. Mounts from back of panel in 3/8" hole. Lens replaceable. Uses T-1 3/4 incandescent lamp. Less lamp. Complete unit: one base, one cap. UL listed.

BASES

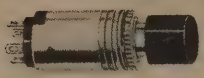
Type No.	Contacts	Net Each, Lots of 1-9	10-24	25-99	100-249
922-1524-525	N.O.	$6.73	$5.50	$4.91	$4.28
922-1525-525	N.C.	6.73	5.50	4.91	4.28
922-1526-525	2-circuit	7.38	6.00	5.38	4.66

CAPS FOR ABOVE BASES

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
908-1631	Red	$1.58	$1.17	$0.99	$0.79
908-1632	Green	1.58	1.17	.99	.79
908-1633	Amber	1.58	1.17	.99	.79
908-1634	Blue	1.58	1.17	.99	.79
908-1635	White	1.58	1.17	.99	.79

LIGHTED PUSHBUTTON SWITCHES

DIALCO®



Switch with Round Lens



Indicator Light with Fixed Flange



Switch with Square Lens



Indicator Light with Knurled Ring

UL listed. Designed for single hole (keyed) mounting in panels up to 3/16" thick. Breakdown voltage, 1250 VAC. Matching indicator lights use same caps. Accommodate T-1 3/4 bulb with midget, flanged base, incandescent.

513 SERIES PANEL MOUNT SWITCHES

LOW LEVEL SWITCHES

Type No.	Contacts	Action	Contact Ratings (mA) 3-12 VDC Res.	Net Each, Lots of 1-9	10-24	25-9
513-0401-604	SPST N.O.	Mom. Non-snap	5-100	$8.97	$7.00	$6.1
513-0501-604	SPST N.C.	Mom. Non-snap	5-100	8.97	7.00	6.1
513-0601-604	2-Circuit	Mom. Non-snap	5-100	9.78	7.67	6.7

STANDARD SWITCHES

Type No.	Contacts	Action	Contact Ratings (Amps) 125 VAC Res.	125 VAC Ind.	30 VDC Res.	30 VDC Ind.	Net Each, Lots 1-9	10-24	25-9
513-0101-604	SPST N.O.	Mom. Non-snap	3	...	3	...	$7.99	$6.20	$5.2
513-0201-604	SPST N.C.	Mom. Non-snap	3	...	3	...	7.99	6.20	5.2
513-0301-604	2-Circuit	Mom. Non-snap	3	...	3	...	8.81	6.87	6.0
513-1401-604	SPDT	Alternate	5	2	5	2	13.08	10.18	8.5
513-1501-604	2-Circuit	Alternate	5	2	5	2	13.08	10.18	8.5
513-1601-604	SPDT	Mom. Snap	5	2	5	2	10.12	7.92	7.0

MATCHING INDICATOR LIGHTS

Companion series designed to match pushbutton switches. With unique anti-rotation (locked) feature for secure locking of socket terminal assembly in the mounting bushing and of the center terminal to the insulating disc. Insulation, 1250 VAC breakdown. Base with fixed flange for front mounting in 15/32" hole. Accommodates T-1 3/4 bulb with midget, flanged base, incandescent.

Front Mtg. Fixed Flange 15/32" Hole	Front/Rear Mtg. Knurled Ring 1/2" Hole	Net Each, Lots of 1-9	10-24	25-9
183-9730-14-602	183-9830-14-604	$2.58	$2.07	$1.8

1/2" LENS CAP

Type Numbers Round Rotatable	Square Non-Rotatable	Color	Net Each, Lots of 1-9	10-24	25-99
183-1471	184-1871	Red	$1.18	$0.98	$0.84
183-1472	184-1872	Green	1.18	.98	.84
183-1473	184-1873	Amber	1.18	.98	.84
183-1475	184-1875	White	1.18	.98	.84

3/4" LENS CAP

Type Numbers Round Non-Rotatable	Square Non-Rotatable	Color	Net Each, Lots o 1-9	10-24	25-9
188-1471	187-1871	Red	$1.65	$1.39	$1.2
188-1472	187-1872	Green	1.65	1.39	1.2
188-1473	187-1873	Amber	1.65	1.39	1.2
188-1475	187-1874	White	1.65	1.39	1.2

513 SERIES BEZEL MOUNT



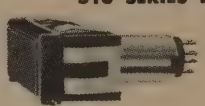
Series 300



Series 301



Series 303



Series 513

UL listed. Insulation resistance, more than 1000 megohms at 500 VDC. Contact ratings listed below are at 125 VDC. Mounting bushing, aluminum with clear anodized finish. Coin silver, gold plated contacts. Heat resistant black plastic bezel. Stainless steel clip. Accommodates T-1 3/4 bulb with midget flanged base, incandescent.

Lens Cap Size	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99
5/8" sq.	300-1871	Red	$1.65	$1.39	$1.21
5/8" sq.	300-1872	Green	1.65	1.39	1.21
5/8" sq.	300-1873	Amber	1.65	1.39	1.21
5/8" sq.	300-1875	White	1.65	1.39	1.21

SWITCHES FOR 300 SERIES CAPS

Type No.	Contacts	Rating, Amps Res.	Ind.	Net Each, Lots of 1-9	10-24	25-99
513-0106-001	SPST N.O.	3	...	$9.61	$7.47	$6.64
513-0206-001	SPST N.C.	3	...	9.61	7.47	6.64
513-0306-001	2-Circuit	3	...	10.45	8.11	7.19
513-1406-001	SPDT	5	2	14.78	11.46	10.10
513-1506-001	2-Circuit	5	2	14.78	11.46	10.10

KAP KOVER

Fits over Series 300 pushbutton caps. Is accommodated by square bezel for snap-in mounting. Clear, colorless. Size, .746" h. × .740" w. × .513" d. For both switches and matching indicators.

Type No.	Net Each, Lots of 1-9	10-24	25-99
515-0300	$0.81	$0.67	$0.57

SWITCHES FOR 300 SERIES CAPS WITH KAP KOVER

Type No.	Contacts	Rating, Amps Res.	Ind.	Net Each, Lots of 1-9	10-24	25-99
513-0111-001	SPST N.O.	3	...	$9.61	$7.47	$6.64
513-0211-001	SPST N.C.	3	...	9.61	7.47	6.64
513-0311-001	2-Circuit	3	...	10.45	8.11	7.19
513-1411-001	SPDT	5	2	14.78	11.46	10.10
513-1511-001	2-Circuit	5	2	14.78	11.46	10.10

Lens Cap Size	Type No.	Color	Net Each, Lots of 1-9	10-24	25-9
5/8" rd.	301-1471	Red	$1.65	$1.39	$1.2
5/8" rd.	301-1472	Green	1.65	1.39	1.2
5/8" rd.	301-1473	Amber	1.65	1.39	1.2
5/8" rd.	301-1475	White	1.65	1.39	1.2

SWITCHES FOR 301 SERIES CAPS

Type No.	Contacts	Rating, Amps Res.	Ind.	Net Each, Lots of 1-9	10-24	25-9
513-0107-001	SPST N.O.	3	...	$9.61	$7.47	$6.6
513-0207-001	SPST N.C.	3	...	9.61	7.47	6.6
513-0307-001	2-Circuit	3	...	10.45	8.11	7.1
513-1407-001	SPDT	5	2	14.78	11.46	10.1
513-1507-001	2-Circuit	5	2	14.78	11.46	10.1

Lens Cap Size	Type No.	Color	Net Each, Lots of 1-9	10-24	25-9
3/4" × 1"	303-3471	Red	$1.83	$1.53	$1.3
3/4" × 1"	303-3472	Green	1.83	1.53	1.3
3/4" × 1"	303-3473	Amber	1.83	1.53	1.3
3/4" × 1"	303-3475	White	1.83	1.53	1.3

SWITCHES FOR 303 SERIES CAPS

Type No.	Contacts	Rating, Amps Res.	Ind.	Net Each, Lots of 1-9	10-24	25-9
513-0309-001	2-Circuit	3	...	$10.45	$8.11	$7.1
513-1409-001	SPDT	5	2	14.78	11.46	10.1
513-1509-001	2-Circuit	5	2	14.78	11.46	10.1
513-0110-001*	SPST N.O.	3	...	9.61	7.47	6.6
513-0310-001*	2-Circuit	3	...	10.45	8.11	7.1
513-1410-001*	SPDT	5	2	14.78	11.46	10.1
513-1510-001*	2-Circuit	5	2	14.78	11.46	10.1

*With barrier.

MATCHING INDICATOR BASE ASSEMBLIES

Mounting bushing is aluminum with clear anodized finish. Bezel is black, heat resistant plastic. Terminals are brass. Length, 1.08".

Type No.	Accepts Cap Size	Net Each, Lots of 1-9	10-24	25-99	100-249
533-0601	5/8" sq.	$3.86	$3.21	$2.77	$2.36
533-0701	5/8" rd.	3.86	3.21	2.77	2.36
533-0901	3/4" × 1"	3.86	3.21	2.77	2.36
533-1001*	3/4" × 1"	3.86	3.21	2.77	2.36

*With barrier.

MINIATURE TOGGLE SWITCHES

Current Rating: Rate A, 5 amps at 120 VAC or 2 amps at 250 VAC; Rate B, 0.4 VA at 20 VAC or VDC. High temperature case. UL listed. Toggle actuators are chrome plated brass with .350" long 1/4-40 NS bushing. Includes hardware.

DPDT



Solder Terminals

Type No.	No. of Poles	Switch Functions§ Side-Center-Side	Cont. Rate	Terminal	Net Each, Lots of 1-24	25-99	100-499	500-999
571-1121-0101-011	1	On-None-On	A	Solder	$2.08	$1.71	$1.46	$1.29
571-1221-0101-011	1	On-Off-On	A	Solder	2.43	1.98	1.69	1.49
571-1321-0101-011	1	(On)-Off-(On)	A	Solder	2.43	1.98	1.69	1.49
571-1421-0101-011	1	On-Off-(On)	A	Solder	2.43	1.98	1.69	1.49
571-1521-0101-011	1	On-None-(On)	A	Solder	2.43	1.98	1.69	1.49
571-1621-0101-011	1	None-On-(On)	A	Solder	2.43	1.98	1.69	1.49
571-1122-0101-011	1	On-None-On	A	P.C.	2.20	1.83	1.58	1.41
571-1128-0101-011	1	On-None-On	A	Sold.*	2.20	1.83	1.58	1.41
571-1129-0101-011	1	On-None-On	A	PC.*	2.32	1.95	1.70	1.53
571-1222-0101-011	1	On-Off-On	A	P.C.	2.55	2.10	1.81	1.61
571-1228-0101-011	1	On-Off-On	A	Sold.*	2.55	2.10	1.81	1.61
571-1229-0101-011	1	On-Off-On	A	P.C.*	2.67	2.22	1.93	1.73
571-1111-0101-011	1	On-None-On	B	Solder	2.25	1.88	1.63	1.46
571-1112-0101-011	1	On-None-On	B	P.C.	2.31	1.94	1.69	1.52
571-1114-0101-011	1	On-None-On	B	W.W.*	2.37	2.00	1.75	1.58
571-1117-0101-011	1	On-None-On	B	W.W.*	2.37	2.00	1.75	1.58
571-1118-0101-011	1	On-None-On	B	Sold.*	2.37	2.00	1.75	1.58
571-1119-0101-011	1	On-None-On	B	P.C.*	2.43	2.06	1.81	1.64
571-1121-0501-014	1	On-None-On	A	Solder	2.66	2.29	2.04	1.87
571-1121-0601-014	1	On-None-On	A	Solder	2.66	2.29	2.04	1.87
571-2121-0101-011	2	On-None-On	A	Solder	2.79	2.32	1.92	1.76
571-2221-0101-011	2	On-Off-On	A	Solder	3.26	2.69	2.36	2.06
571-2721-0101-011	2	On-On-On	A	Solder	3.62	2.99	2.59	2.25
571-2128-0101-011	2	On-None-On	A	Sold.*	3.03	2.56	2.16	2.00
571-2228-0101-011	2	On-Off-On	A	Sold.*	3.50	2.93	2.60	2.30
571-3121-0101-011	3	On-None-On	A	Solder	4.81	3.99	3.46	3.03
571-3112-0101-011	3	On-None-On	B	P.C.	5.50	4.68	4.15	3.72
571-4121-0101-011	4	On-None-On	A	Solder	6.19	5.15	4.47	3.88
571-4721-0101-011	4	On-On-On	A	Solder	7.62	6.26	5.42	4.98

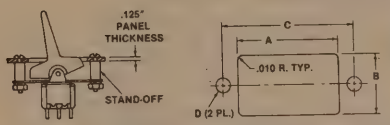
SPDT



P.C. Terminals

*Terminals epoxied in place. †Toggle 0.840" long, flatted; ‡toggle 0.450" long, flatted; all others 0.410" long, rounded. §( ) denotes momentary position.

MINIATURE ROCKER AND LEVER SWITCHES FOR SUB-PANEL BRACKET MOUNTING



Actuator Dimen.	01,05	02,06
A	.707"	1.095"
B	.418"	.648"
C	.937"	1.375"
D	.094"	.120"

Current Rating: 5 amps at 120 VAC; 2 amps at 250 VAC. High temperature case. UL listed. Actuators are black nylon. Mounting hardware is included. Solder terminals.

01 Rocker



05 Lever



Type No.	No. of Poles	Switch Functions§ Side-Center-Side	Actuator	Net Each, Lots of 1-24	25-99	100-499	500-999
572-1121-0104-013	1	On-None-On	Rocker 01, .365" × .648"	$2.48	$2.11	$1.86	$1.69
572-1221-0104-013	1	On-Off-On	Rocker 01, .365" × .648"	2.83	2.38	2.09	1.89
572-1321-0104-013	1	(On)-Off-(On)	Rocker 01, .365" × .648"	2.83	2.38	2.09	1.89
572-1421-0104-013	1	On-Off-(On)	Rocker 01, .365" × .648"	2.83	2.38	2.09	1.89
572-1521-0104-013	1	On-None-(On)	Rocker 01, .365" × .648"	2.83	2.38	2.09	1.89
572-1621-0104-013	1	None-On-(On)	Rocker 01, .365" × .648"	2.83	2.38	2.09	1.89
572-1121-0204-013	1	On-None-On	Rocker 02, .595" × 1.036"	2.48	2.11	1.86	1.69
572-1221-0204-013	1	On-Off-On	Rocker 02, .595" × 1.036"	2.83	2.38	2.09	1.89
572-1121-0504-013	1	On-None-On	Lever 05, .365" × .740"	2.48	2.11	1.86	1.69
572-1221-0504-013	1	On-Off-On	Lever 05, .365" × .740"	2.83	2.38	2.09	1.89
572-1121-0604-013	1	On-None-On	Lever 06, .595" × 1.174"	2.48	2.11	1.86	1.69
572-1221-0604-013	1	On-Off-On	Lever 06, .595" × 1.174"	2.83	2.38	2.09	1.89
572-2121-0104-013	2	On-None-On	Rocker 01, .365" × .648"	3.19	2.72	2.32	2.16
572-2221-0104-013	2	On-Off-On	Rocker 01, .365" × .648"	3.66	3.09	2.76	2.46
572-2121-0204-013	2	On-None-On	Rocker 02, .595" × 1.036"	3.19	2.72	2.32	2.16
572-2221-0204-013	2	On-Off-On	Rocker 02, .595" × 1.036"	3.66	3.09	2.76	2.46
572-2121-0504-013	2	On-None-On	Lever 05, .365" × .740"	3.19	2.72	2.32	2.16
572-2221-0504-013	2	On-Off-On	Lever 05, .365" × .740"	3.66	3.09	2.76	2.46
572-2121-0604-013	2	On-None-On	Lever 06, .595" × 1.174"	3.19	2.72	2.32	2.16
572-2221-0604-013	2	On-Off-On	Lever 06, .595" × 1.174"	3.66	3.09	2.76	2.46
572-3121-0104-013	3	On-None-On	Rocker 01, .365" × .648"	5.21	4.39	3.86	3.43
572-3121-0504-013	3	On-None-On	Lever 05, .365" × .740"	5.21	4.39	3.86	3.43
572-4121-0104-013	4	On-None-On	Rocker 01, .365" × .648"	6.59	5.55	4.87	4.28
572-4121-0204-013	4	On-None-On	Rocker 02, .595" × 1.036"	6.59	5.55	4.87	4.28

§( ) denotes momentary position.

MINIATURE LEVER SWITCHES FOR SNAP-IN MOUNTING WITH BEZEL

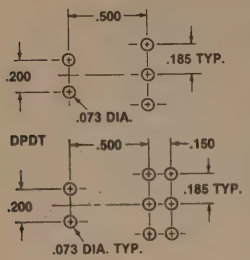
Current Rating: 5 amps at 120 VAC; 2 amps at 250 VAC. High temperature case. UL listed. Actuator and bezel are black nylon. Solder terminals. Lever measures .450" w. × .644" lg. Panel cutout measures .600" × .500".

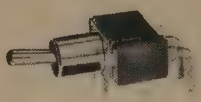


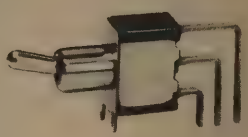
08 Lever

Type No.	No. of Poles	Switch Functions§ Side-Center-Side	Net Each, Lots of 1-24	25-99	100-499	500-999
572-1121-0804-040	1	On-None-On	$2.94	$2.57	$2.32	$2.15
572-1221-0804-040	1	On-Off-On	3.29	2.84	2.55	2.35
572-1321-0804-040	1	(On)-Off-(On)	3.29	2.84	2.55	2.35
572-1421-0804-040	1	On-Off-(On)	3.29	2.84	2.55	2.35
572-1521-0804-040	1	On-None-(On)	3.29	2.84	2.55	2.35
572-1621-0804-040	1	None-On-(On)	3.29	2.84	2.55	2.35
572-2121-0804-040	2	On-None-On	3.65	3.18	2.78	2.62
572-2221-0804-040	2	On-Off-On	4.12	3.55	3.22	2.92
572-2321-0804-040	2	(On)-Off-(On)	4.12	3.55	3.22	2.92
572-2421-0804-040	2	On-Off-(On)	4.12	3.55	3.22	2.92
572-2521-0804-040	2	On-None-(On)	4.12	3.55	3.22	2.92
572-2621-0804-040	2	None-On-(On)	4.12	3.55	3.22	2.92
572-2721-0804-040	2	On-On-On	4.48	3.85	3.45	3.11
572-2821-0804-040	2	On-On-(On)	4.84	4.12	3.72	3.31
572-2921-0804-040	2	(On)-On-(On)	4.84	4.12	3.72	3.31

§( ) denotes momentary position.



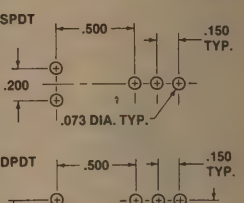

SPDT



MINIATURE TOGGLE SWITCHES—HORIZONTAL MOUNT

Rated at 0.4 VA at 20 VAC or VDC. Terminals are bent at 90° for PC board mounting. Brass actuators travel horizontally. Non-threaded bushing is .280" long × .245" diam. High temperature case is UL approved, chrome plated.

Type No.	No. of Poles	Switch Function Side-Center-Side*	Terminals	Toggle Length, Ins.	Net Each, Lots of 1-24	25-99	100-499	500-999
573-1113-0101-100	1	On-None-On	P.C.	.480	$2.31	$1.94	$1.69	$1.52
573-1119-0101-100	1	On-None-On	P.C. epoxied	.480	2.43	2.06	1.81	1.64
573-1113-0301-100	1	On-None-On	P.C.	.270	2.31	1.94	1.69	1.52
573-1119-0301-100	1	On-None-On	P.C. epoxied	.270	2.43	2.06	1.81	1.64
573-1213-0301-100	1	On-Off-On	P.C.	.270	2.66	2.21	1.92	1.72
573-1313-0301-100	1	(On)-Off-(On)	P.C.	.270	2.66	2.21	1.92	1.72
573-2113-0301-100	2	On-None-On	P.C.	.270	3.25	2.78	2.38	2.22
573-2213-0301-100	2	On-Off-On	P.C.	.270	3.72	3.15	2.82	2.52

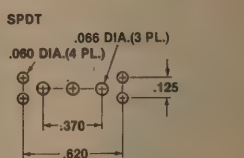


MINIATURE TOGGLE SWITCHES—VERTICAL MOUNT

Rated at 0.4 VA at 20 VAC or VDC. Terminals are bent at 90° for PC board mounting. Brass actuators travel vertically. Non-threaded bushing is .280" long × .245" diam. High temperature case is UL approved, chrome plated.

Type No.	No. of Poles	Switch Function Side-Center-Side*	Terminals	Toggle Length, Ins.	Net Each, Lots of 1-24	25-99	100-499	500-999
573-1112-0101-100	1	On-None-On	P.C.	.480	$2.31	$1.94	$1.69	$1.52
573-1118-0101-100	1	On-None-On	P.C. epoxied	.480	2.43	2.06	1.81	1.64
573-1112-0301-100	1	On-None-On	P.C.	.270	2.31	1.94	1.69	1.52
573-1118-0301-100	1	On-None-On	P.C. epoxied	.270	2.43	2.06	1.81	1.64
573-1212-0301-100	1	On-Off-On	P.C.	.270	2.66	2.21	1.92	1.72
573-2112-0301-100	2	On-None-On	P.C.	.270	3.25	2.78	2.38	2.22
573-2212-0301-100	2	On-Off-On	P.C.	.270	3.72	3.15	2.82	2.52

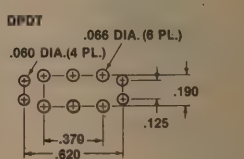




MINIATURE TOGGLE SWITCHES—WITH SUPPORT BRACKETS

Rated at 0.4 VA at 20 VAC or VDC. Bracket made of fused, tin-plated steel. High temperature case is UL approved, chrome plated. Non-threaded bushing is .280" long × .245" diam.

Type No.	No. of Poles	Switch Function Side-Center-Side*	Terminals	Toggle Length, Ins.	Net Each, Lots of 1-24	25-99	100-499	500-999
577-1111-0101-110	1	On-None-On	P.C.	.480	$2.45	$2.08	$1.83	$1.66
577-1112-0101-110	1	On-None-On	P.C. epoxied	.480	2.55	2.18	1.93	1.76
577-1111-0301-110	1	On-None-On	P.C.	.270	2.45	2.08	1.83	1.66
577-1112-0301-110	1	On-None-On	P.C. epoxied	.270	2.55	2.18	1.93	1.76
577-1211-0301-110	1	On-Off-On	P.C.	.270	2.80	2.35	2.06	1.86
577-1311-0301-110	1	(On)-Off-(On)	P.C.	.270	2.80	2.35	2.06	1.86
577-2112-0101-110	2	On-None-On	P.C. epoxied	.480	3.48	3.01	2.61	2.45
577-2111-0301-110	2	On-None-On	P.C.	.270	3.28	2.81	2.41	2.25
577-2112-0301-110	2	On-None-On	P.C. epoxied	.270	3.48	3.01	2.61	2.45
577-2211-0301-110	2	On-Off-On	P.C.	.270	3.75	3.18	2.85	2.55
577-2212-0301-110	2	On-Off-On	P.C. epoxied	.270	3.95	3.38	3.05	2.75



MINIATURE ROCKER AND LEVER SWITCHES— WITH SUPPORT BRACKETS

Rated at 0.4 VA at 20 VAC or VDC. Bracket made of fused, tin-plated steel. High temperature case is UL approved. Rocker and lever actuators are black nylon.

Type No.	No. of Poles	Switch Function Side-Center-Side*	Terminals	† Actuator	Net Each, Lots of 1-24	25-99	100-499	500-999
574-1111-0104-010	1	On-None-On	P.C.	R	$2.75	$2.38	$2.13	$1.96
574-1112-0104-010	1	On-None-On	P.C. epoxied	R	2.85	2.48	2.23	2.06
574-1111-0504-010	1	On-None-On	P.C.	L	2.75	2.38	2.13	1.96
574-1112-0504-010	1	On-None-On	P.C. epoxied	L	2.85	2.48	2.23	2.06
574-1211-0504-010	1	On-Off-On	P.C.	L	3.10	2.65	2.36	2.16
574-1311-0504-010	1	(On)-Off-(On)	P.C.	L	3.10	2.65	2.36	2.16
574-2111-0504-010	2	On-None-On	P.C.	L	3.58	3.11	2.71	2.55
574-2112-0504-010	2	On-None-On	P.C. epoxied	L	3.78	3.31	2.91	2.75
574-2211-0504-010	2	On-Off-On	P.C.	L	4.05	3.48	3.15	2.85
574-2212-0504-010	2	On-Off-On	P.C. epoxied	L	4.25	3.68	3.35	3.05

*() denoted momentary position. †R (rocker), .365" × .648"; L (lever), .365" × .740".



General Purpose Toggle Switches
ac Rated

SPECIFICATIONS

- One hole mounting
- Slow make, slow break contact mechanism
- Mounting hardware and terminal screws (where applicable) furnished unassembled
- Mounting hardware consists of one hexagon locknut and one bright nickel plated knurled facenut (except 7700-7705 which have bright nickel hexagon facenut)
- Keyway—0.068" x 0.035" deep—provides antirotation feature
- Butt action contact mechanism designed specifically for use on ac and low voltage dc applications
- Threaded bushing—0.468"-32
- Bright nickel plated toggle lever
- Ratings listed for 125 Vac also apply at 28 Vdc
- Unless otherwise noted, all switches below are UL and CSA listed

SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)


1-Pole


2-Pole


3-Pole




4-Pole

No. of Poles	Nominal Ratings: Amperes 125V ac	Nominal Ratings: Amperes 250V ac	Nominal Ratings: hp 250V ac	Poles and Throw	Circuit with Lever In . . . UP Position	CENTER Position	DOWN Position (Keyway)	Bushing Length A Inches	Lever Length B Inches	Catalog Numbers: Solder Lugs	Screw Terminal	.250 Spade Terminal
1	6	3	---	1 P.S.T.	ON	NONE	OFF	0.344 0.469	0.563 0.563	**7580K7** **K6**	7580K5 **K4**	**7580K9** K8
				1 P.D.T.	ON	OFF	ON	0.344 0.469	0.563 0.563	7581K7 **K6**	7581K5 **K4**	7581K9 **K8**
				1 P.D.T.	ON	NONE	ON	0.344 0.469	0.563 0.563	7582K7 **K6**	7582K5 **K4**	7582K9 **K8**
				1 P.S.T.	OFF ON ON ON *ON	NONE NONE NONE OFF OFF	ON* OFF* ON* ON* ON*	0.469	0.563	7583K6 7584K6 7585K6 7586K6 7587K6	7583K4 7584K4 7585K4 7586K4 7587K4	7583K8 7584K8 7585K8 7586K8 7587K8
				1 P.D.T.								
	15	10	¾	1 P.S.T.	ON	NONE	OFF	0.344 0.469	0.563 0.563	7501K12 **K13**	7500K13 **K14**	7501K14 **K15**
				1 P.D.T.	ON	OFF	ON	0.344 0.469	0.563 0.563	7503K12 **K13**	7502K12 **K13**	7503K14 **K15**
				1 P.D.T.	ON	NONE	ON	0.344 0.469	0.563 0.563	7505K3 **K4**	7504K3 **K4**	7505K5 **K6**
	---	10	½	1 P.S.T.	OFF ON ON *ON ON	NONE NONE OFF OFF NONE	ON* OFF* ON* ON* ON*	0.469	0.563	7506K3 7507K3 7508K5 7509K4 7510K6	**7506K4** 7507K4 7508K6 **7509K5** 7510K7	7506K6 7507K6 7508K8 7509K7 7510K9
				1 P.D.T.								
	30	25	---	1 P.S.T.	ON	NONE	OFF	0.344	0.563	----	**7576K20**	----
2	6	3	---	2 P.S.T.	ON	NONE	OFF	0.344 0.469	0.563 0.563	7590K7 **K6**	7590K5 **K4**	7590K9 K8
				2 P.D.T.	ON	OFF	ON	0.344 0.469	0.563 0.563	7591K7 **K6**	7591K5 **K4**	7591K9 K8
				2 P.D.T.	ON	NONE	ON	0.344 0.469	0.563 0.563	7592K7 **K6**	7592K5 **K4**	7592K9 **K8**
				2 P.S.T.	OFF ON ON ON *ON	NONE NONE NONE OFF OFF	ON* OFF* ON* ON* ON*	0.469	0.563	7593K6 7594K6 7595K6 7596K6 7597K6	7593K4 7594K4 7595K4 7596K4 7597K4	7593K8 7594K8 7595K8 7596K8 7597K8
				2 P.D.T.								
	15	10	¾	2 P.S.T.	ON	NONE	OFF	0.344 0.469	0.563 0.563	7561K5 **K4**	7560K6 **K5**	7561K7 **K6**
				2 P.D.T.	ON	OFF	ON	0.344 0.469	0.563 0.563	7563K5 **K4**	7562K5 **K4**	7563K7 **K6**
				2 P.D.T.	ON	NONE	ON	0.344 0.469	0.563 0.563	7565K6 **K5**	7564K7 **K6**	7565K8 **K7**
	15	10	½	2 P.S.T.	OFF ON ON *ON ON	NONE NONE OFF OFF NONE	ON* OFF* ON* ON* ON*	0.469	0.563	7566K4 7567K4 7568K3 7569K1 7570K4	7566K5 7567K5 7568K2 7569K2 7570K5	7566K7 7567K7 7568K4 7569K3 7570K7
				2 P.D.T.								
	---	20	1½	2 P.S.T.	ON	NONE	OFF	0.469	0.563	----	----	7599K1
3	15	10	¾	3 P.S.T.	ON ON	NONE OFF	OFF ON	0.469	0.688	**7700K1** **7701K1**	**7700K2** **7701K2**	**7700K3** **7701K3**
				3 P.D.T.	ON	NONE	ON			**7702K1**	**7702K2**	**7702K3**
			½	3 P.S.T.	*ON *ON *ON	NONE OFF NONE	OFF ON ON	0.469	0.688	7703K1 7704K1 7705K1	7703K2 7704K2 7705K2	7703K3 7704K3 7705K3
				3 P.D.T.								
	---	20	2[3]	3 P.S.T.	ON	NONE	OFF	0.515	0.585	----	**8320K1**	----
4	15	10	¾	4 P.S.T.	ON ON	NONE OFF	OFF ON	0.469	0.688	**7691K14** **7693K2**	**7690K8** **7692K13**	---- ----
				4 P.D.T.	ON	NONE	ON			**7695K5**	**7694K4**	----

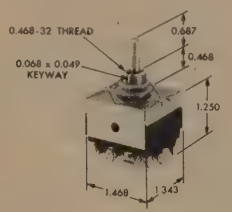
* Momentary contact.
[1] Single pole switch in 2-pole base — see dimension table.
[3] Rated 1½ hp at 115V ac, 1 phase; 2 hp at 230-575V ac, 1 phase; and 2 hp at 115-575V ac, 2 and 3 phase.

Special Purpose Toggle Switches—Hesitation Switches—ac Rated

SPECIFICATIONS

- One hole mounting
- Slow make, slow break contact mechanism
- Butt action contact mechanism designed specifically for use on ac and low voltage dc applications
- Stainless steel operating lever
- Mounting hardware consists of one hexagon locknut, and one bright nickel plate hexagon facenut—terminal screws furnished unassembled
- Patented interlock mechanism prevents operation of lever through the center position until pressure is momentarily relieved
- Specifically designed for control and protection of reversing motors
- Listed ratings for 125V ac also apply at 28V dc
- All switches below are UL and CSA listed.

APPROXIMATE DIMENSIONS



SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Nominal Ratings Amperes 125V ac	Nominal Ratings Amperes 250V ac	Nominal Ratings Hp 250V. ac	Operation	Circuit with Lever in . . . UP Position	Circuit with Lever in . . . CENTER Position	Circuit with Lever in . . . DOWN Position (Keyway)	Poles and Throw	Screw Terminals Catalog Number
15	10	3/4	Maintained	ON	OFF	ON	2 P.D.T.	**7892K10**
							3 P.D.T.	**7891K10**
							4 P.D.T.	**7890K10**

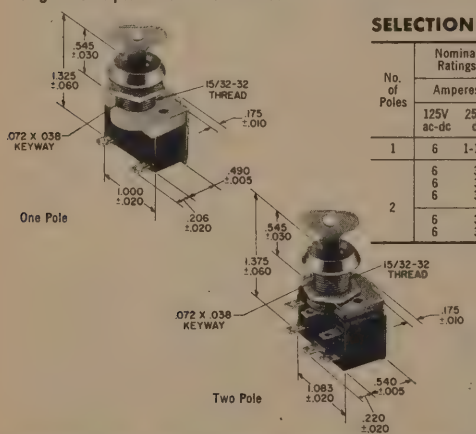
OPTIONS

- Bushing diameter—3/4"
- Reversing circuits
- Solder lug or spade terminals
- Center ON circuit for dynamic braking (Is not U.L. listed)
- Lever seal

Utility Keylock Switches — ac and dc Rated

SPECIFICATIONS

- One hole mounting
- Quick make, quick break contact mechanism
- Non-teasable, self cleaning, wiping action contacts
- Mounting hardware consists of one hexagon locknut and one bright nickel plated chamfered facenut
- Bright nickel plated threaded bushing—0.468" long
- Mounting hardware and one key furnished unassembled
- Key removable in one or both switching positions
- All switches below are UL and CSA listed



SELECTION TABLE

No. of Poles	Nominal Ratings Amperes 125V ac-dc	Nominal Ratings Amperes 250V dc	Poles and Throw	Circuit with Key in . . . (keyway down) LEFT Position	CENTER Position (Keyway)	RIGHT Position	Key Removal Position	Solder Lug Terminals Catalog Number
1	6	1-1/2	1 P.D.T.	---	ON	ON	CENTER	8283K150
2	6	3	2 P.S.T.	---	OFF	ON	CENTER	8370K150
	6	3		---	ON	OFF	CENTER	K151
	6	3		ON	OFF	---	LEFT	K152
	6	3	2 P.D.T.	---	ON	ON	CENTER	8373K150
	6	3		---	ON	ON	CENTER & RIGHT	K151

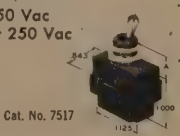
OPTIONS

- Dry circuit capability
- Tab terminals—0.110"
- Screw and wire lead terminals
- Special circuits

Special Purpose Toggle Switches — Molded Construction

SPECIFICATIONS

- All plastic base and bushing
- Plug-in terminals
- One pole single throw maintained switch —ON-OFF
- Ratings—10 amperes at 125 Vac or 28 Vdc
  5 amperes at 250 Vac
  ½ horsepower at 250 Vac
- 7517K6 has molded lever



Cat. No. 7517

Bushing and Lever Dimensions

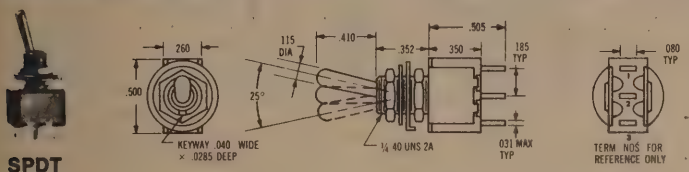
Catalog No.	Bushing Length "A", In.	Lever Length, In.
7517K4	0.344	0.563
7517K5	0.469	0.563
7517K6	0.344	0.563

Toggle Switches — Solder Terminals

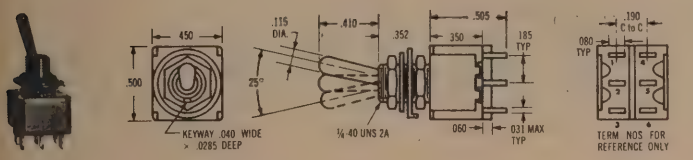
JMT SERIES	6A
T06 SERIES	0.5VA

DIRECT PANEL MOUNT

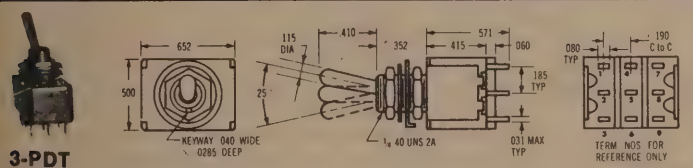
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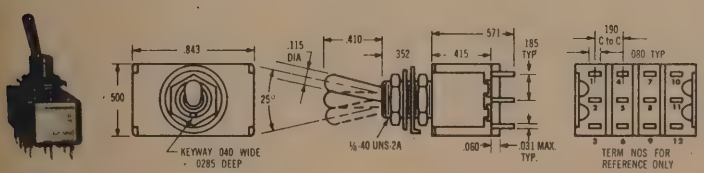
DPDT



3-PDT



4-PDT



JMT MODEL NO.	CIRCUITRY KEYWAY			T06 MODEL NO.
JMT-121	ON	OFF	ON	T06-121
JMT-123	ON	NONE	ON	T06-123
JMT-126	ON	NONE	ON*	T06-126
JMT-127	ON*	OFF	ON*	T06-127
JMT-131	ON	OFF	ON*	T06-131
JMT-134	NONE	ON	ON*	T06-134
JMT-221	ON	OFF	ON	T06-221
JMT-223	ON	NONE	ON	T06-223
JMT-226	ON	NONE	ON*	T06-226
JMT-227	ON*	OFF	ON*	T06-227
JMT-231	ON	OFF	ON*	T06-231
JMT-232 Note A	ON	ON	ON	T06-232 Note A
JMT-233 Note A	ON	ON	ON*	T06-233 Note A
JMT-234	NONE	ON	ON*	T06-234
JMT-235 Note A	ON*	ON	ON*	T06-235 Note A
JMT-321	ON	OFF	ON	T06-321
JMT-323	ON	NONE	ON	T06-323
JMT-327	ON*	OFF	ON*	T06-327
JMT-331	ON	OFF	ON*	T06-331
JMT-334	NONE	ON	ON*	T06-334
JMT-421	ON	OFF	ON	T06-421
JMT-423	ON	NONE	ON	T06-423
JMT-427	ON*	OFF	ON*	T06-427
JMT-431	ON	OFF	ON*	T06-431
JMT-432 Note B	ON	ON	ON	T06-432 Note B
JMT-433 Note B	ON	ON	ON*	T06-433 Note B
JMT-434	NONE	ON	ON*	T06-434
JMT-435 Note B	ON*	ON	ON*	T06-435 Note B

*Momentary

SPECIFICATIONS:

Contact Rating — JMT Series — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

T06 Series — 0.5 volt-amp (VA) Max. @ 28V Max. (AC or DC).

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — **JMT Series,** Coin silver. **T06 Series,** Brass, 50 millionths gold plated over nickel.
Center Terminal — **JMT Series,** silver plated brass. **T06 Series,** Brass, gold plated over nickel.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.



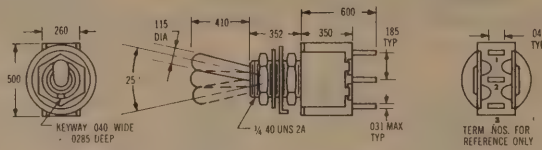
MPC SERIES 6A (see note 1 for 0.5VA version)

Toggle Switches — Printed Circuit Terminals

DIRECT MOUNT IN PRINTED CIRCUIT BOARDS

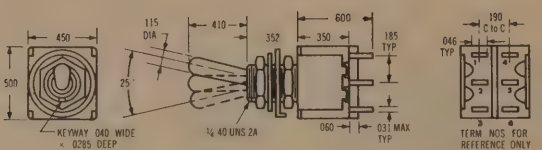


SPDT



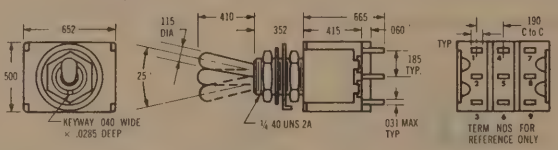


DPDT



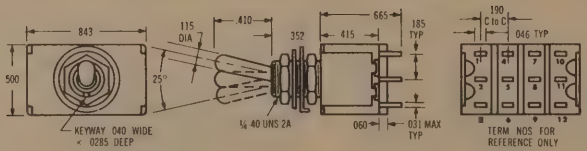


3-PDT





4-PDT



MPC MODEL NO.	CIRCUITRY KEYWAY		
MPC-121	ON	OFF	ON
MPC-123	ON	NONE	ON
MPC-126	ON	NONE	ON*
MPC-127	ON*	OFF	ON*
MPC-131	ON	OFF	ON*
MPC-134	NONE	ON	ON*
MPC-221	ON	OFF	ON
MPC-223	ON	NONE	ON
MPC-226	ON	NONE	ON*
MPC-227	ON*	OFF	ON*
MPC-231	ON	OFF	ON*
MPC-232 Note A	ON	ON	ON
MPC-233 Note A	ON	ON	ON*
MPC-234	NONE	ON	ON*
MPC-235 Note A	ON*	ON	ON*
MPC-321	ON	OFF	ON
MPC-323	ON	NONE	ON
MPC-327	ON*	OFF	ON*
MPC-331	ON	OFF	ON*
MPC-334	NONE	ON	ON*
MPC-421	ON	OFF	ON
MPC-423	ON	NONE	ON
MPC-427	ON*	OFF	ON*
MPC-431	ON	OFF	ON*
MPC-432 Note B	ON	ON	ON
MPC-433 Note B	ON	ON	ON*
MPC-434	NONE	ON	ON*
MPC-435 Note B	ON*	ON	ON*

*Momentary

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

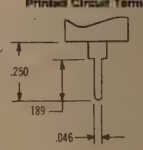
Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.
Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.
Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

Note: 1. This Series is also available on special order with brass, gold plated current carrying parts (0.5 VA).

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — Coin silver.
Terminals — Flash gold plated for solderability.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium-plated.

Printed Circuit Terminal



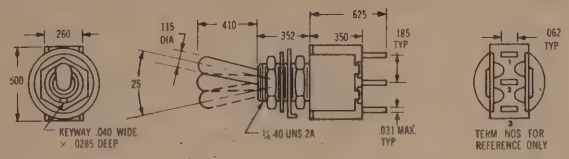
Toggle Switches — Push-On Quick Connect Terminals

T13 SERIES 6A (see note 1 for 0.5VA version)

DIRECT PANEL MOUNT

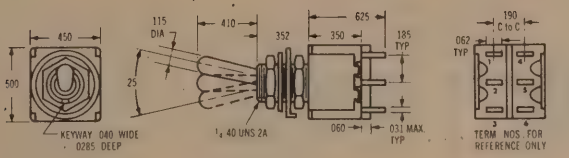


SPDT



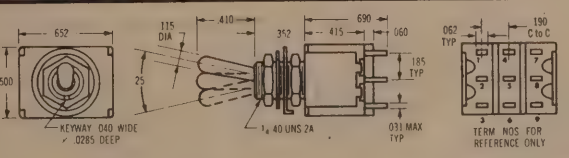


DPDT



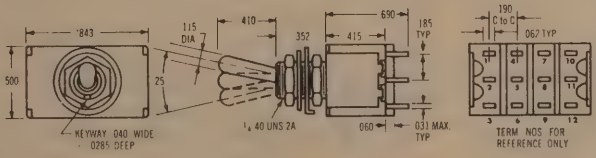


3-PDT





4-PDT



T13 MODEL NO.	CIRCUITRY KEYWAY		
T13-121	ON	OFF	ON
T13-123	ON	NONE	ON
T13-126	ON	NONE	ON*
T13-127	ON*	OFF	ON*
T13-131	ON	OFF	ON*
T13-134	NONE	ON	ON*
T13-221	ON	OFF	ON
T13-223	ON	NONE	ON
T13-226	ON	NONE	ON*
T13-227	ON*	OFF	ON*
T13-231	ON	OFF	ON*
T13-232 Note A	ON	ON	ON
T13-233 Note A	ON	ON	ON
T13-234	NONE	ON	ON*
T13-235 Note A	ON*	ON	ON*
T13-321	ON	OFF	ON
T13-323	ON	NONE	ON
T13-327	ON*	OFF	ON*
T13-331	ON	OFF	ON*
T13-334	NONE	ON	ON*
T13-421	ON	OFF	ON
T13-423	ON	NONE	ON
T13-427	ON*	OFF	ON*
T13-431	ON	OFF	ON*
T13-432 Note B	ON	ON	ON
T13-433 Note B	ON	ON	ON*
T13-434	NONE	ON	ON*
T13-435 Note B	ON*	ON	ON*

*Momentary

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP, 0.19 oz.; DP, 0.23 oz.; 3-pole, 0.28 oz.; 4-pole, 0.32 oz.

Notes: 1. This Series is also available on special order with brass, gold plated current carrying parts (0.5 VA).

2. Terminals for this series are designed to fit AMP connector #60900-1 or equal.

Base (body) — 1- and 2-pole — diallyl phthalate (DAP). 3- and 4-pole - high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching Contacts and Rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.

Quick Connect Terminal

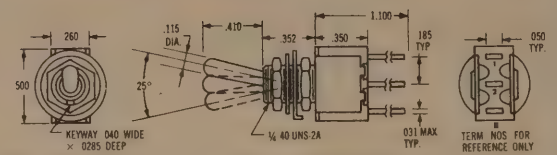


T01 SERIES 0.5VA

WIRE-WRAP OR DIRECT PC MOUNT

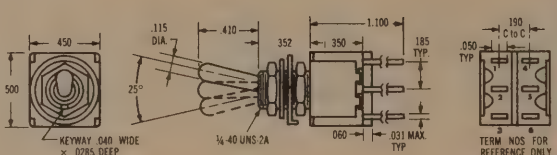


SPDT



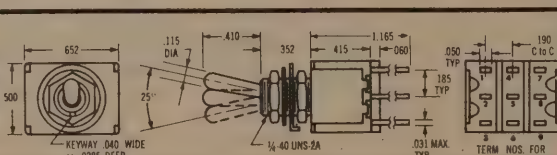


DPDT



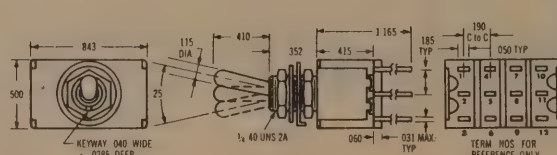


3-PDT





4-PDT



T01 MODEL NO.	CIRCUITRY (KEYWAY)		
T01-121	ON	OFF	ON
T01-123	ON	NONE	ON
T01-126	ON	NONE	ON*
T01-127	ON*	OFF	ON*
T01-131	ON	OFF	ON*
T01-134	NONE	ON	ON*
T01-221	ON	OFF	ON
T01-223	ON	NONE	ON
T01-226	ON	NONE	ON*
T01-227	ON*	OFF	ON*
T01-231	ON	OFF	ON*
T01-232 Note A	ON	ON	ON
T01-233 Note A	ON	ON	ON*
T01-234	NONE	ON	ON*
T01-235 Note A	ON*	ON	ON*
T01-321	ON	OFF	ON
T01-323	ON	NONE	ON
T01-327	ON*	OFF	ON*
T01-331	ON	OFF	ON*
T01-334	NONE	ON	ON*
T01-421	ON	OFF	ON
T01-423	ON	NONE	ON
T01-427	ON*	OFF	ON*
T01-431	ON	OFF	ON*
T01-432 Note B	ON	ON	ON
T01-433 Note B	ON	ON	ON*
T01-434	NONE	ON	ON*
T01-435 Note B	ON*	ON	ON*

*Momentary

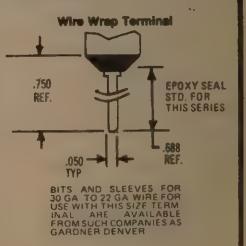
SPECIFICATIONS:

Contact Rating — 0.5 volt-amp (VA) Max. @ 28V Max. (AC or DC).
Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.
Initial Contact resistance — 10 milliohms max. 3 VDC, 100 ma.
Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.
Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts, rockers and center terminals — Brass, 50 millionths gold plated over nickel.

Center Terminal — Brass, 50 millionths gold plated over nickel.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-VA-16 — Steel, cadmium plated.

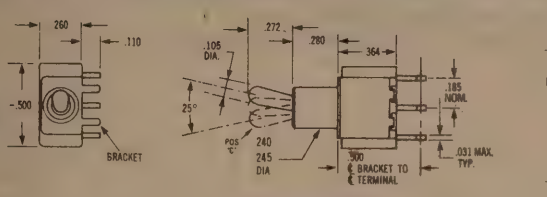


Toggle Switches

T02 SERIES 0.5VA

RIGHT ANGLE MOUNT IN PC BOARDS (HORIZONTAL)

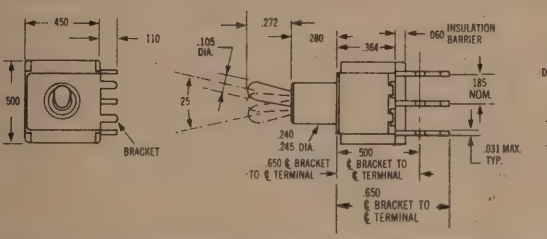




SPDT

T02 MODEL NO.	CIRCUITRY		POS C
T02-121	ON	OFF	ON
T02-123	ON	NONE	ON
T02-126	ON	NONE	ON*
T02-127	ON*	OFF	ON*
T02-131	ON	OFF	ON*
T02-134	NONE	ON	ON*





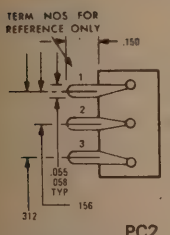
DPDT

T02 MODEL NO.	CIRCUITRY		
T02-221	ON	OFF	ON
T02-223	ON	NONE	ON
T02-226	ON	NONE	ON*
T02-227	ON*	OFF	ON*
T02-231	ON	OFF	ON*
T02-232 Note A	ON	ON	ON
T02-233 Note A	ON	ON	ON*
T02-234	NONE	ON	ON*
T02-235 Note A	ON*	ON	ON*

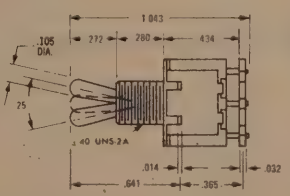
PC1 SERIES 6A

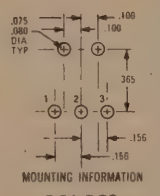
PC2 SERIES 6A

PC1 PC2 MODEL NO.	CIRCUITRY (KEYWAY)		
PC1-121 PC2-121	ON	OFF	ON
PC1-123 PC2-123	ON	NONE	ON
PC1-126 PC2-126	ON	NONE	ON*
PC1-127 PC2-127	ON*	OFF	ON*
PC1-131 PC2-131	ON	OFF	ON*
PC1-134 PC2-134	NONE	ON	ON*



PC2





PC1-PC2

NOTE: PC1 makes continuity to PC Board finger **same** side as toggle throw; PC2 **opposite**

SPECIFICATIONS:

Contact Rating — PC1, PC2 Series 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed. **T02 Series** — 0.5 volt-amp (VA) Max. @28V Max. (AC or DC).

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP) — For T02 Series.
Note: Available in 1-pole models only for PC1 and PC2 Series.

Lever (toggle) — Brass, chrome plated.

Bushing — Brass, nickel plated.

Clamp (frame) — Stainless steel.

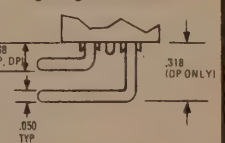
Switching contacts and rockers — PC1, PC2 Series, Coin Silver. T02 Series — Brass, 50 millionths gold plated over nickel.

Center Terminal — PC1, PC2 Series, silver plated brass. T02 Series — Brass, 50 millionths gold plated over nickel.

Hardware — PC1, PC2 Series only. Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium-plated.

*Momentary

Right Angle P.C. Terminal



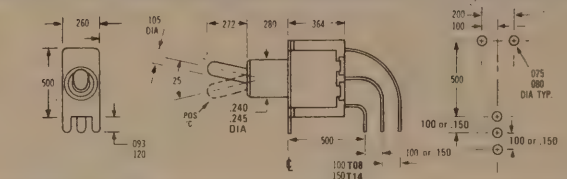
T08 SERIES — 0.5VA (.100 Terminal Spacing)

T14 SERIES — 0.5VA (.150 Terminal Spacing)

Toggle Switches

RIGHT ANGLE MOUNT IN PC BOARDS (VERTICAL)

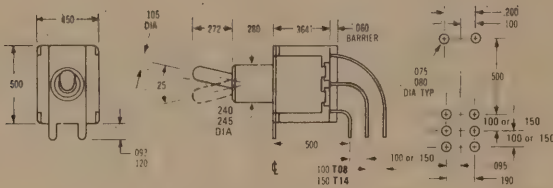




SPDT

T08 MODEL NO.	CIRCUITRY			T14 MODEL NO.
T08-121	ON	OFF	ON	T14-121
T08-123	ON	NONE	ON	T14-123
T08-126	ON	NONE	ON*	T14-126
T08-127	ON*	OFF	ON*	T14-127
T08-131	ON	OFF	ON*	T14-131
T08-134	NONE	ON	ON*	T14-134

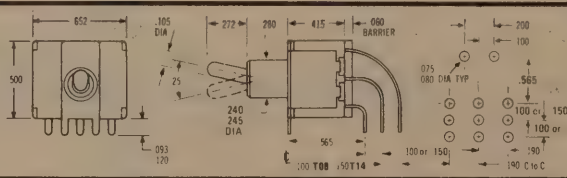




DPDT

T08 MODEL NO.				T14 MODEL NO.
T08-221	ON	OFF	ON	T14-221
T08-223	ON	NONE	ON	T14-223
T08-226	ON	NONE	ON*	T14-226
T08-227	ON*	OF	ON*	T14-227
T08-231	ON	OFF	ON*	T14-231
T08-232 Note A	ON	ON	ON	T14-232 Note A
T08-233 Note A	ON	ON	ON*	T14-233 Note A
T08-234	NONE	ON	ON*	T14-234
T08-235 Note A	ON*	ON	ON*	T14-235 Note A

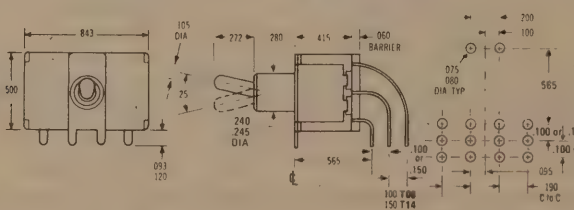




3-PDT

T08 MODEL NO.				T14 MODEL NO.
T08-321	ON	OFF	ON	T14-321
T08-323	ON	NONE	ON	T14-323
T08-327	ON*	OFF	ON*	T14-327
T08-331	ON	OFF	ON*	T14-331
T08-334	NONE	ON	ON*	T14-334





4-PDT

T08 MODEL NO.				T14 MODEL NO.
T08-421	ON	OFF	ON	T14-421
T08-423	ON	NONE	ON	T14-423
T08-427	ON*	OFF	ON*	T14-427
T08-431	ON	OFF	ON*	T14-431
T08-432 Note B	ON	ON	ON	T14-432 Note B
T08-433 Note B	ON	ON	ON*	T14-433 Note B
T08-434	NONE	ON	ON*	T14-434
T08-435 Note B	ON*	ON	ON*	T14-435 Note B

SPECIFICATIONS:

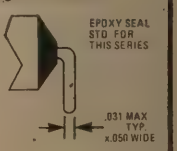
Contact Rating — 0.5 volt-amp (VA) Max. @ 28V Max. (AC or DC).
Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.
Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.
Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.
Weight — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — Brass, 50 millionths gold plated over nickel.
Center Terminal — Brass, 50 millionths gold plated over nickel.
Hardware — None required.

*Momentary

Right Angle P.C. Terminal



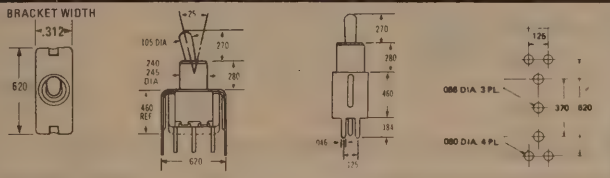
Toggle Switches

T15 SERIES 0.5VA

PC MOUNTED

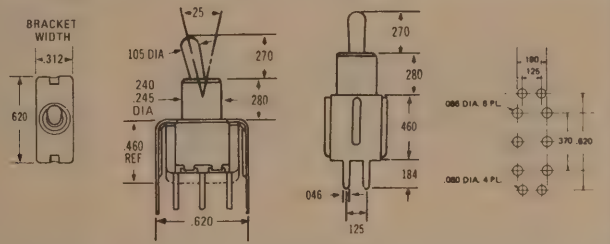


SPDT





DPDT

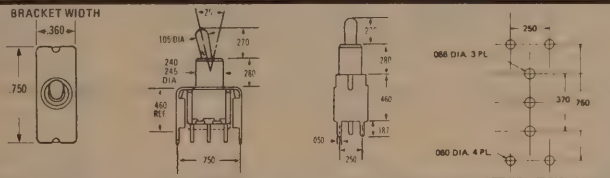


T15 MODEL NO.	CIRCUITRY		
T15-121	ON	OFF	ON
T15-123	ON	NONE	ON
T15-126	ON	NONE	ON*
T15-127	ON*	OFF	ON*
T15-131	ON	OFF	ON*
T15-134	NONE	ON	ON*
T15-221	ON	OFF	ON
T15-223	ON	NONE	ON
T15-226	ON	NONE	ON*
T15-227	ON*	OFF	ON*
T15-231	ON	OFF	ON*
T15-232 Note A	ON	ON	ON
T15-233 Note A	ON	ON	ON*
T15-234	NONE	ON	ON*
T15-235 Note A	ON*	ON	ON*

T16 SERIES 0.5VA

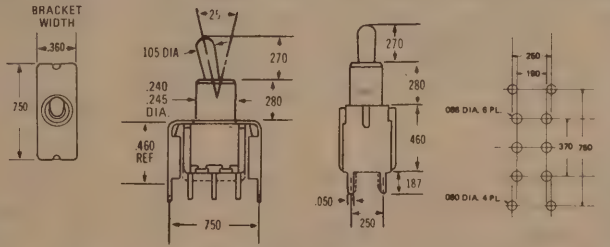


SPDT





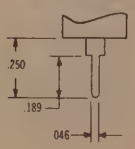
DPDT



T16 MODEL NO.	CIRCUITRY		
T16-121	ON	OFF	ON
T16-123	ON	NONE	ON
T16-126	ON	NONE	ON*
T16-127	ON*	OFF	ON*
T16-131	ON	OFF	ON*
T16-134	NONE	ON	ON*
T16-221	ON	OFF	ON
T16-223	ON	NONE	ON
T16-226	ON	NONE	ON*
T16-227	ON*	OFF	ON*
T16-231	ON	OFF	ON*
T16-232 Note A	ON	ON	ON
T16-233 Note A	ON	ON	ON*
T16-234	NONE	ON	ON*
T16-235 Note A	ON*	ON	ON*

*Momentary

Printed Circuit Terminal



SPECIFICATIONS:

Nominal Rating — 0.5 volt-amp (VA) Max @ 28V Max (AC or DC).
Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.
Initial Contact Resistance — 10 milliohms Max., 3 VDC, 100 Ma.
Insulation Resistance — 20,000 megohms, min. for DAP bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.

MATERIALS:

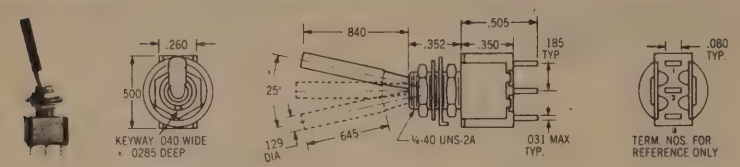
Base (body) — 1- and 2-pole — dially phthalate (DAP).
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Support Bracket — CRS, tin plated.
Switching Contacts and Rockers — Brass, 50 millionths gold plated over nickel.
Center Terminal — Brass, 50 millionths gold plated over nickel.

(PC type terminals are supplied as standard).

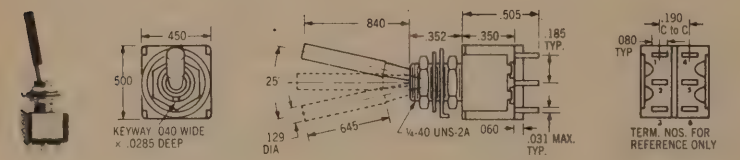
Long Modcap Toggle Switches — Solder Terminals

T17 SERIES 6A

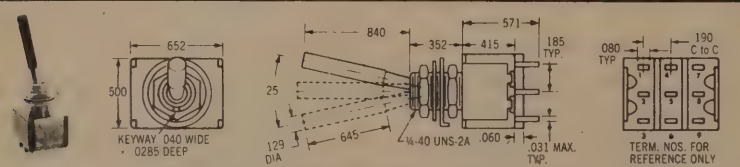
DIRECT PANEL MOUNT



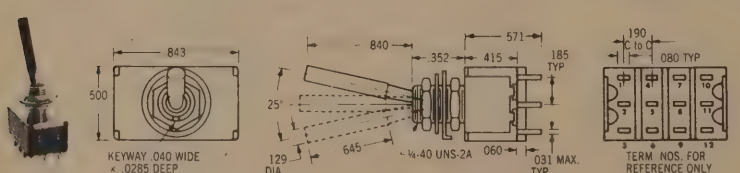
T17 MODEL NO.	CIRCUITRY (KEYWAY)		
T17-121	ON	OFF	ON
T17-123	ON	NONE	ON
T17-126	ON	NONE	ON
T17-127	ON*	OFF	ON*
T17-131	ON	OFF	ON*
T17-134	NONE	ON	ON*



T17-221	ON	OFF	ON
T17-223	ON	NONE	ON
T17-226	ON	NONE	ON*
T17-227	ON*	OFF	ON*
T17-231	ON	OFF	ON*
T17-232	ON	ON	ON
T17-233	ON	ON	ON*
T17-234	NONE	ON	ON*
T17-235	ON*	ON	ON*



T17-321	ON	OFF	ON
T17-323	ON	NONE	ON
T17-327	ON*	OFF	ON*
T17-331	ON	OFF	ON*
T17-334	NONE	ON	ON*



T17-421	ON	OFF	ON
T17-423	ON	NONE	ON
T17-427	ON*	OFF	ON*
T17-431	ON	OFF	ON*
T17-432	ON	ON	ON
T17-433	ON	ON	ON*
T17-434	NONE	ON	ON*
T17-435	ON*	ON	ON*

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

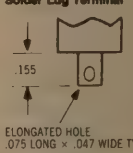
Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.
Cap — Polyethylene, Black standard, Red and White available.

*Momentary

Solder Lug Terminal

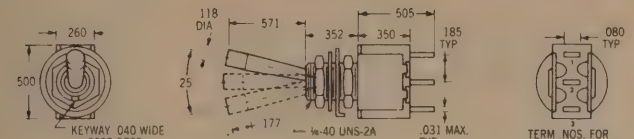


Short Modcap Toggle Switches — Solder Terminal

T18 SERIES 5A

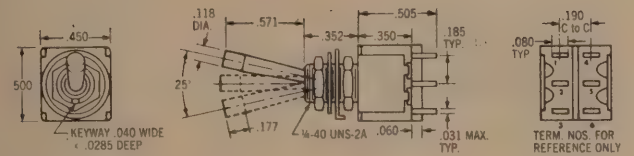
DIRECT PANEL MOUNT





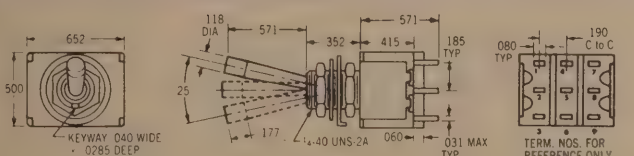
T18 MODEL NO.	CIRCUITRY (KEYWAY)		
T18-121	ON	OFF	ON
T18-123	ON	NONE	ON
T18-126	ON	NONE	ON
T18-127	ON*	OFF	ON*
T18-131	ON	OFF	ON*
T18-134	NONE	ON	ON*





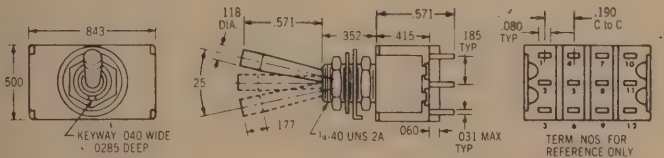
T18 MODEL NO.	CIRCUITRY (KEYWAY)		
T18-221	ON	OFF	ON
T18-223	ON	NONE	ON
T18-226	ON	NONE	ON*
T18-227	ON*	OFF	ON*
T18-231	ON	OFF	ON*
T18-232	ON	ON	ON
T18-233	ON	ON	ON*
T18-234	NONE	ON	ON*
T18-235	ON*	ON	ON*





T18 MODEL NO.	CIRCUITRY (KEYWAY)		
T18-321	ON	OFF	ON
T18-323	ON	NONE	ON
T18-327	ON*	OFF	ON*
T18-331	ON	OFF	ON*
T18-334	NONE	ON	ON*





T18 MODEL NO.	CIRCUITRY (KEYWAY)		
T18-421	ON	OFF	ON
T18-423	ON	NONE	ON
T18-427	ON*	OFF	ON*
T18-431	ON	OFF	ON*
T18-432	ON	ON	ON
T18-433	ON	ON	ON*
T18-434	NONE	ON	ON*
T18-435	ON*	ON	ON*

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

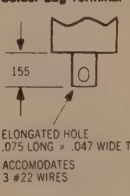
Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.
Cap — **Polyethylene, Black standard, Red and White available.**

*Momentary

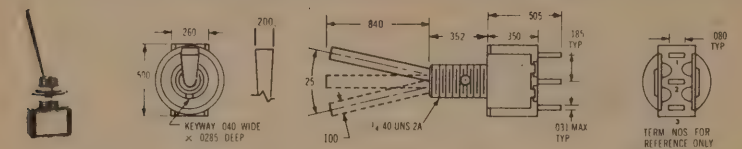
Solder Lug Terminal



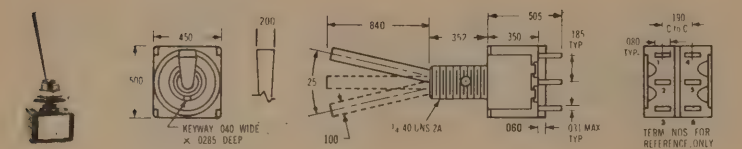
Long Flat Handle Toggle Switches — Solder Terminals

T19 SERIES 6A

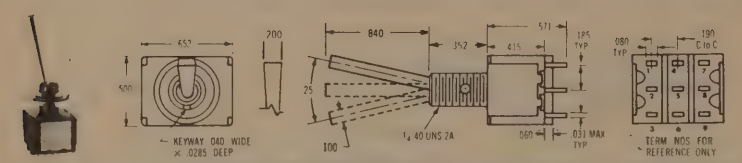
DIRECT PANEL MOUNT



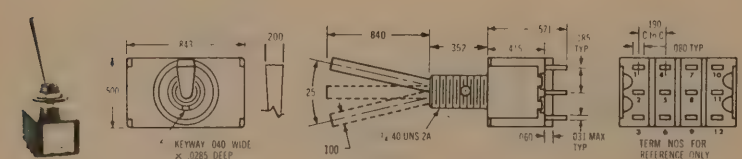
T19 MODEL NO.	CIRCUITRY (KEYWAY)		
T19-121	ON	OFF	ON
T19-123	ON	NONE	ON
T19-126	ON	NONE	ON*
T19-127	ON*	OFF	ON*
T19-131	ON	OFF	ON*
T19-134	NONE	ON	ON*



T19-221	ON	OFF	ON
T19-223	ON	NONE	ON
T19-226	ON	NONE	ON*
T19-227	ON*	OFF	ON*
T19-231	ON	OFF	ON*
T19-232	ON	ON	ON
T19-233	ON	ON	ON*
T19-234	NONE	ON	ON*
T19-235	ON*	ON	ON*



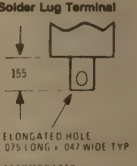
T19-321	ON	OFF	ON
T19-323	ON	NONE	ON
T19-327	ON*	OFF	ON*
T19-331	ON	OFF	ON*
T19-334	NONE	ON	ON*



T19-421	ON	OFF	ON
T19-423	ON	NONE	ON
T19-427	ON*	OFF	ON*
T19-431	ON	OFF	ON*
T19-432	ON	ON	ON
T19-433	ON	ON	ON*
T19-434	NONE	ON	ON*
T19-435	ON*	ON	ON*

*Momentary

Solder Lug Terminal



SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

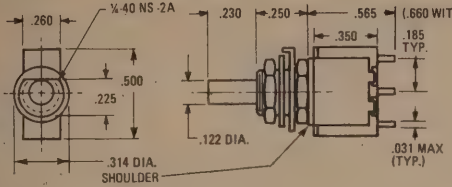
Base (body) — 1- and 2-pole diallyl phthalate (DAP). 3- and 4-pole high strength phenolic.
Lever (toggle) — Brass, satin chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel
Switching contacts and rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated Dress Nut W-NU-17A-Brass, satin chrome plated.

Sensitive Push Button Switches — Solder and P.C. Terminals (Momentary Action)

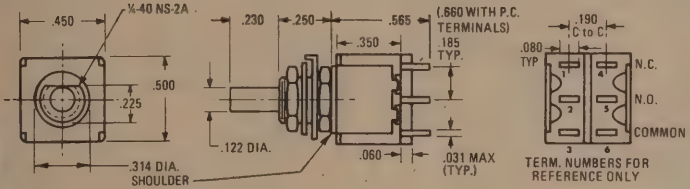
PS SERIES — 5 AMP. (S.P.) 1 AMP. (D.P.) 0.4VA

DIRECT PANEL MOUNT









Basic P/N	Terminal-Rating	Poles	Size	Cap Color
PS	1 - S.L. 1 or 5 amp❶ 2 - PC 1 or 5 amp❶ 3 - S.L. .4 VA 4 - PC .4 VA	1 - One❶ 2 - Two❶	0 - No Cap 1 - .200 Dia. 2 - .375 Dia. 3 - .450 Sq.	0 - No Cap 1 - Black 2 - White 3 - Red

❶Single pole circuit rated 5 amps, double pole circuit rated 1 amp.

EXAMPLES

PS1-100 = One-pole, S.L., 5 amp, No Cap

PS4-221 = Two-pole, PC, .4 VA, .375 Dia., Black Cap

SPECIFICATIONS

Contact Rating — 5 amp resistive (1 pole), 1 amp resistive (2 pole) at 125 VAC or 28 VDC (U.L. Listed).
0.4 Volt-Amps (VA) maximum @ 28 V maximum (AC or DC)

Contact Resistance — 50 milliohms maximum

Insulation Resistance — 1,000 megohms minimum.

Dielectric Strength — 1,000 volts RMS minimum at sea level.

Electrical Life — 60,000 cycles minimum at full load-resistive.

Maximum Allowable Installation Force on Plunger — 10 pounds.

Multi-pole contacts do not make and break simultaneously.

MATERIALS

Case — Dially Phthalate (DAP).

Bushing — Brass, nickel plated.

Housing — Stainless steel.

Plunger — Thermoplastic.

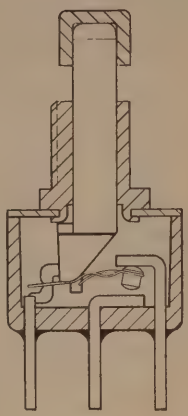
Common Contact — 1 and 5 amp — Silver with gold flash for solderability.
.4 VA — Brass, 50 millionths gold plated over nickel.

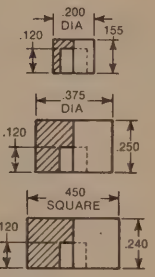
Center & End Contact — 1 and 5 amp — Brass, silver inlay and gold flash for solderability.
.4 VA — Brass, 50 millionths gold plated over nickel.

Hardware — Nut — Brass, bright nickel plated.

Locking Ring — Brass, bright nickel plated.

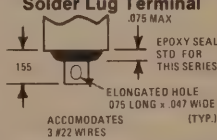
Lockwasher — C.R.S. bright nickel plated.





Description	P/N	Color
Small Cap .200	W-KN-16	Black
	W-KN-16A	White
	W-KN-16B	Red
Large Cap .375	W-KN-17	Black
	W-KN-17A	White
	W-KN-17B	Red
Square Cap .450	W-KN-18	Black
	W-KN-18A	White
	W-KN-18B	Red

Solder Lug Terminal



Printed Circuit Terminal



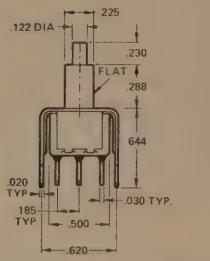
Sensitive Push Button Switches — P.C. Terminals (Momentary Action)

PS SERIES 0.4 VA

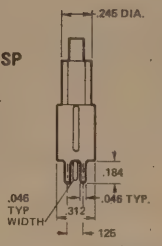
P. C. MOUNTED

PS7

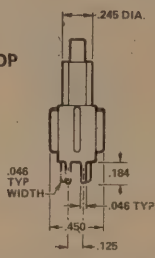




SP

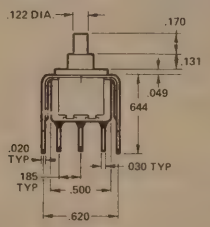


DP

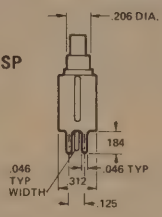


PS8

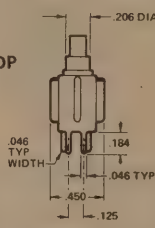


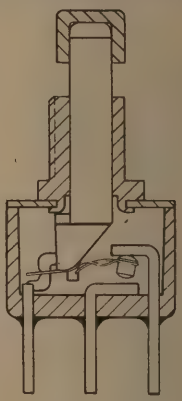


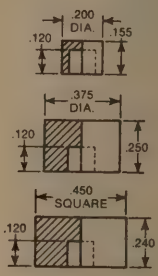
SP



DP







Basic P/N	Terminal-Rating	Poles	Size	Cap Color
PS	7 - PC Mounted 0.4 VA 8 - PC Mounted 0.4 VA	1 - One 2 - Two	0 - No Cap 1 - .200 Dia. 2 - .375 Dia. 3 - .450 Sq.	0 - No Cap 1 - Black 2 - White 3 - Red

ORDERING EXAMPLES:

PS7-100 = (PC mounted 0.4 VA) One-pole, No Cap, No Color

P S 7 - 1 0 0 ☐ option

PS8-221 = (PC mounted 0.4 VA) Two-pole, .375 Dia. Black Cap

P S 8 - 2 2 1 ☐ option

OPTION:

G — Add suffix "G" to part number when 50 millionths gold plated over 100 millionths nickel over silver current carrying parts are required. 100 millionths gold available on special order.

Q — Add suffix "Q" to part number when silver current carrying parts are required.

Description	P/N	Color
Small Cap .200	W-KN-16	Black
	W-KN-16A	White
	W-KN-16B	Red
Large Cap .375	W-KN-17	Black
	W-KN-17A	White
	W-KN-17B	Red
Square Cap .450	W-KN-18	Black
	W-KN-18A	White
	W-KN-18B	Red

SPECIFICATIONS

Contact Rating — 0.4 Volt Amps (VA) maximum @ 28 V maximum (AC or DC).

Contact Resistance — 50 milliohms maximum.

Insulation Resistance — 1,000 megohms minimum.

Dielectric Strength — 1,000 volts RMS minimum at sea level.

Electrical Life — 60,000 cycles minimum at full load - resistive.

Maximum Allowable Installation Force on Plunger — 10 pounds.

Multi-pole contacts do not make and break simultaneously.

MATERIALS

Case — Dially Phthalate (DAP).

Bushing — Brass, nickel plated.

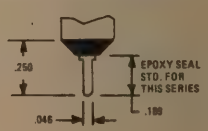
Housing — Stainless steel.

Plunger — Thermoplastic.

Common Contact - Brass, 50 millionths gold plated over nickel.

Center & End Contact — Brass, 50 millionths gold plated over nickel.

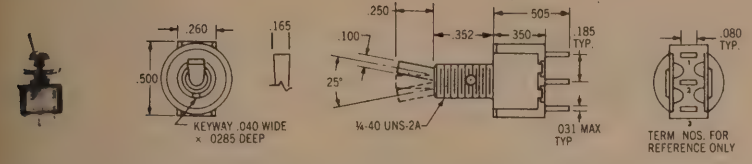
Printed Circuit Terminal



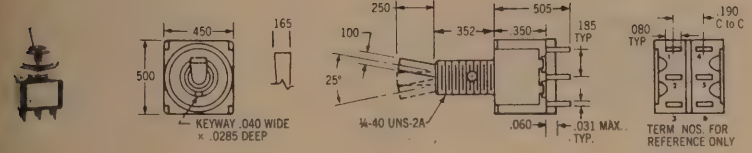
Short Flat Handle Toggle Switches — Solder Terminals

T20 SERIES 6A

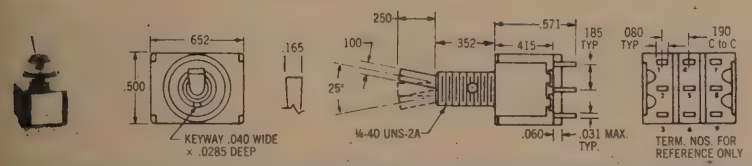
DIRECT PANEL MOUNT



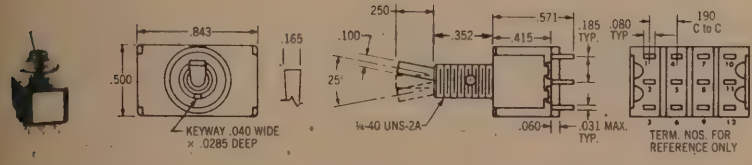
T20 MODEL NO.	CIRCUITRY (KEYWAY)		
T20-121	ON	OFF	ON
T20-123	ON	NONE	ON
T20-126	ON	NONE	ON*
T20-127	ON*	OFF	ON*
T20-131	ON	OFF	ON*
T20-134	NONE	ON	ON*



T20-221	ON	OFF	ON
T20-223	ON	NONE	ON
T20-226	ON	NONE	ON*
T20-227	ON*	OFF	ON*
T20-231	ON	OFF	ON*
T20-232	ON	ON	ON
T20-233	ON	ON	ON*
T20-234	NONE	ON	ON*
T20-235	ON*	ON	ON*



T20-321	ON	OFF	ON
T20-323	ON	NONE	ON
T20-327	ON*	OFF	ON*
T20-331	ON	OFF	ON*
T20-334	NONE	ON	ON*



T20-421	ON	OFF	ON
T20-423	ON	NONE	ON
T20-427	ON*	OFF	ON*
T20-431	ON	OFF	ON*
T20-432	ON	ON	ON
T20-433	ON	ON	ON*
T20-434	NONE	ON	ON*
T20-435	ON*	ON	ON*

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

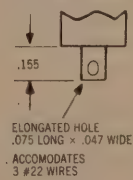
Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, satin chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated. Dress Nut W-NU-17A-Brass, satin chrome plated.

*Momentary

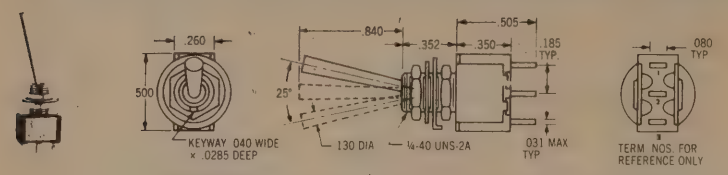
Solder Lug Terminal

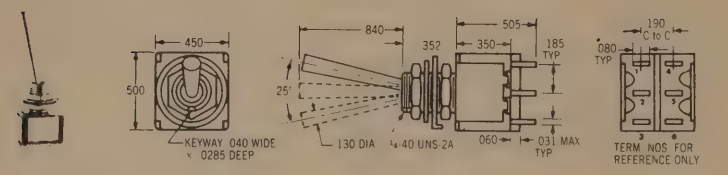


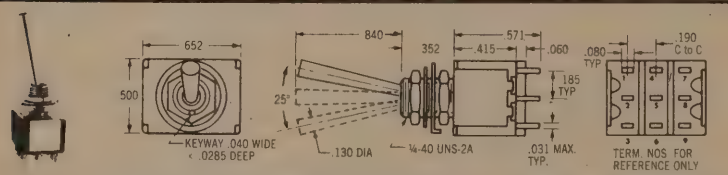
.840 Long Bat Toggle Switches — Solder Terminals

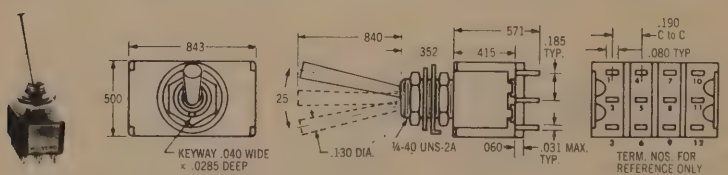
T21 SERIES 6A

DIRECT PANEL MOUNT





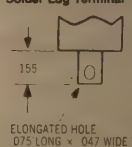




T21 MODEL NO.	CIRCUITRY KEYWAY		
T21-121	ON	OFF	ON
T21-123	ON	NONE	ON
T21-126	ON	NONE	ON*
T21-127	ON*	OFF	ON*
T21-131	ON	OFF	ON*
T21-134	NONE	ON	ON*
T21-221	ON	OFF	ON
T21-223	ON	NONE	ON
T21-226	ON	NONE	ON*
T21-227	ON*	OFF	ON*
T21-231	ON	OFF	ON*
T21-232	ON	ON	ON
T21-233	ON	ON	ON*
T21-234	NONE	ON	ON*
T21-235	ON*	ON	ON*
T21-321	ON	OFF	ON
T21-323	ON	NONE	ON
T21-327	ON*	OFF	ON*
T21-331	ON	OFF	ON*
T21-334	NONE	ON	ON*
T21-421	ON	OFF	ON
T21-423	ON	NONE	ON
T21-427	ON*	OFF	ON*
T21-431	ON	OFF	ON*
T21-432	ON	ON	ON
T21-433	ON	ON	ON*
T21-434	NONE	ON	ON*
T21-435	ON*	ON	ON*

*Momentary

Solder Lug Terminal



SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz.; 3-pole 0.28 oz.; 4-pole 0.32 oz.

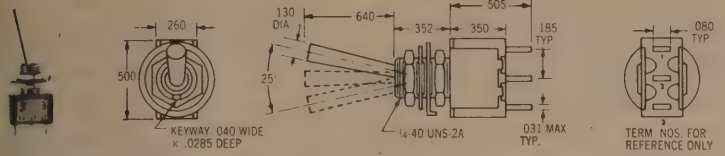
MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, bright chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — T21 Series, Coin silver.
Center Terminal — T21 Series, silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.

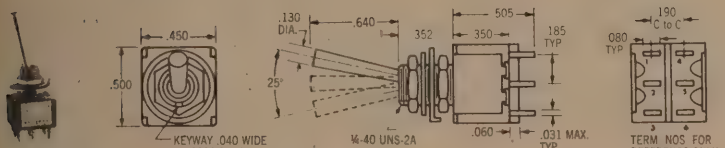
.640 Long Bat Toggle Switches — Solder Terminals

T22 SERIES 6A

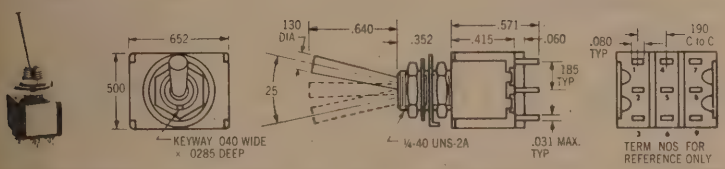
DIRECT PANEL MOUNT



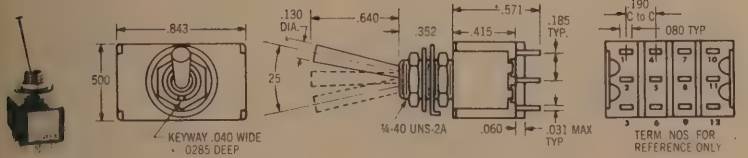
T22 MODEL NO.	CIRCUITRY KEYWAY		
T22-121	ON	OFF	ON
T22-123	ON	NONE	ON
T22-126	ON	NONE	ON*
T22-127	ON*	OFF	ON*
T22-131	ON	OFF	ON*
T22-134	NONE	ON	ON*



T22-221	ON	OFF	ON
T22-223	ON	NONE	ON
T22-226	ON	NONE	ON*
T22-227	ON*	OFF	ON*
T22-231	ON	OFF	ON*
T22-232	ON	ON	ON
T22-233	ON	ON	ON*
T22-234	NONE	ON	ON*
T22-235	ON*	ON	ON*



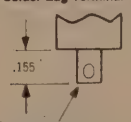
T22-321	ON	OFF	ON
T22-323	ON	NONE	ON
T22-327	ON*	OFF	ON*
T22-331	ON	OFF	ON*
T22-334	NONE	ON	ON*



T22-421	ON	OFF	ON
T22-423	ON	NONE	ON
T22-427	ON*	OFF	ON*
T22-431	ON	OFF	ON*
T22-432	ON	ON	ON
T22-433	ON	ON	ON*
T22-434	NONE	ON	ON*
T22-435	ON*	ON	ON*

*Momentary

Solder Lug Terminal



SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Bushing Strength — 12 pound-inches without physical damage to switch.

Weight (including hardware) — SP 0.19 oz.; DP 0.23 oz., 3-pole 0.28 oz., 4-pole 0.32 oz.

MATERIALS

Base (body) — 1- and 2-pole-diallyl phthalate (DAP). 3- and 4-pole-high strength phenolic.
Lever (toggle) — Brass, bright chrome plated.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching contacts and rockers — **T22 Series,** Coin silver.
Center Terminal — **T22 Series,** silver plated brass.
Hardware — Nut W-NU-11 — Brass, nickel plated. Locking Ring W-RI-12 — Brass, nickel plated Lockwasher W-WA-16 — Steel, cadmium plated

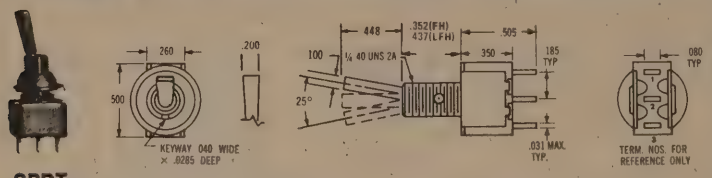
LFH SERIES 6A (long bushing)

FH SERIES 6A (short bushing)

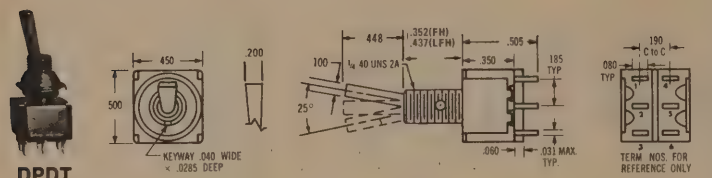
Flat Handle Toggle Switches

DIRECT PANEL MOUNT

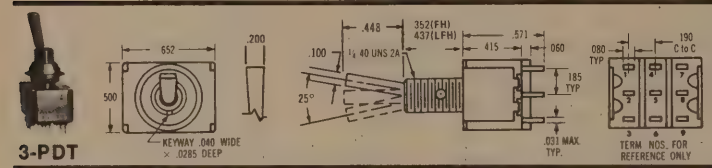
SPDT



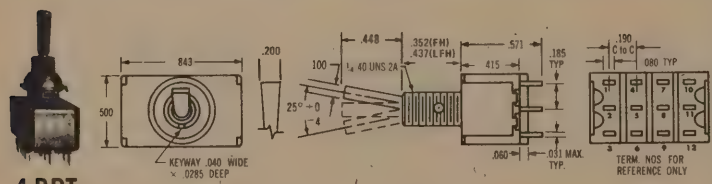
DPDT



3-PDT



4-PDT



LFH MODEL NO.	CIRCUITRY (KEYWAY)			FH MODEL NO.
LFH-121	ON	OFF	ON	FH-121
LFH-123	ON	NONE	ON	FH-123
LFH-126	ON	NONE	ON*	FH-126
LFH-127	ON*	OFF	ON*	FH-127
LFH-131	ON	OFF	ON*	FH-131
LFH-134	NONE	ON	ON*	FH-134
LFH-221	ON	OFF	ON	FH-221
LFH-223	ON	NONE	ON	FH-223
LFH-226	ON	NONE	ON*	FH-226
LFH-227	ON*	OFF	ON*	FH-227
LFH-231	ON	OFF	ON*	FH-231
LFH-232 Note A	ON	ON	ON	FH-232 Note A
LFH-233 Note A	ON	ON	ON*	FH-233 Note A
LFH-234	NONE	ON	ON*	FH-234
LFH-235 Note A	ON*	ON	ON*	FH-235 Note A
LFH-321	ON	OFF	ON	FH-321
LFH-323	ON	NONE	ON	FH-323
LFH-327	ON*	OFF	ON*	FH-327
LFH-331	ON	OFF	ON*	FH-331
LFH-334	NONE	ON	ON*	FH-334
LFH-421	ON	OFF	ON	FH-421
LFH-423	ON	NONE	ON	FH-423
LFH-427	ON*	OFF	ON*	FH-427
LFH-431	ON	OFF	ON*	FH-431
LFH-432 Note B	ON	ON	ON	FH-432 Note B
LFH-433 Note B	ON	ON	ON*	FH-433 Note B
LFH-434	NONE	ON	ON*	FH-434
LFH-435 Note B	ON*	ON	ON*	FH-435 Note B

*Momentary

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.
Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.
Initial Contact Resistance –10 milliohms max., .3 VDC, 100 ma.
Insulation Resistance — 20,000 megohms, min. for DAP bodies; 10,000 megohms min. for phenolic bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.

Note: 1. LFH and FH Series are also available on special order, with brass, gold plated current carrying parts (0.5 VA).

MATERIALS:

Base (body) — 1- and 2-pole — diallyl phthalate (DAP). 3- and 4-pole — high strength phenolic.
Lever (toggle) — Brass, satin chrome finish — is supplied as standard for LFH and FH Series. Other finishes are available.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching Contacts and Rockers — Coin silver.
Center Terminal — Silver plated brass.
Hardware — 1 hex nut - W-NU-11 - Brass, nickel plated. 1 dress nut - W-NU-17A - Brass, satin chrome*. Locking ring - W-RI-12 - Brass, nickel plated. Lockwasher - W-WA-16 - Steel, Cadmium plated.

Solder Lug Terminal



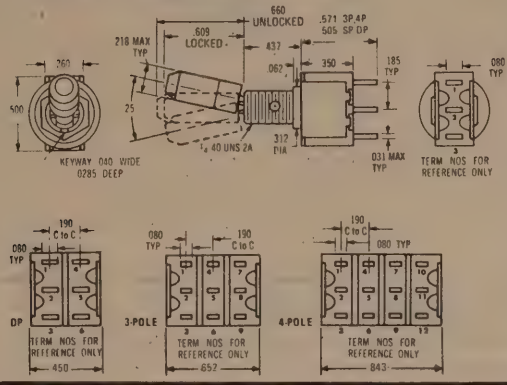
Toggle Switches; Lever Lock; Large Bushing and Toggle

LL SERIES 6A

PANEL MOUNT



LL SP-DP-3P-4P

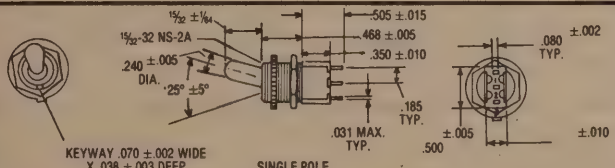


LL MODEL NO.	CIRCUITRY KEYWAY		
LL-121	ON	OFF	ON
LL-123	ON	NONE	ON
LL-221	ON	OFF	ON
LL-223	ON	NONE	ON
LL-232 Note A	ON	ON	ON
LL-321	ON	OFF	ON
LL-323	ON	NONE	ON
LL-421	ON	OFF	ON
LL-423	ON	NONE	ON
LL-432 Note B	ON	ON	ON

T23 SERIES 6A



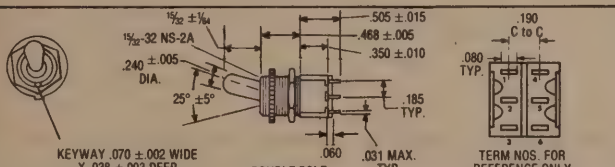
SPDT



T23 MODEL NO.	CIRCUITRY KEYWAY		
T23-121	ON	OFF	ON
T23-123	ON	NONE	ON



DPDT



T23 MODEL NO.	CIRCUITRY KEYWAY		
T23-221	ON	OFF	ON
T23-223	ON	NONE	ON

SPECIFICATIONS

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.
Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.
Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.
Insulation Resistance — LL Series — 20,000 megohms, min. for DAP bodies; 10,000 megohms, min. for phenolic bodies.
Dielectric Strength — 1,000 volts rms at sea level.
Bushing Strength — 12 pound-inches without physical damage to switch.

Note: 1. These series are also available on special order with brass, gold plated current carrying parts (0.5 VA).

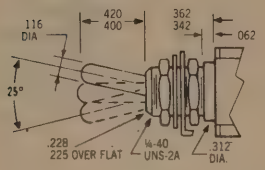
MATERIALS

Base (body) — 1- and 2-pole - diallyl phthalate (DAP). 3- and 4-pole — high strength phenolic. PB Series — Single pole only — diallyl phthalate (DAP).
Locking Lever — LL Series — Cap — natural anodized aluminum supplied as standard; other colors such as red, blue, gold, black and green are also available.
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless steel.
Switching Contacts and Rockers —Coin Silver.
Center Terminal — Silver plated brass.
Hardware — (2) Nut W-NU-11 — Brass, nickel plated. Lockwasher W-WA-16 — Steel, cadmium plated.

Solder Lug Terminal

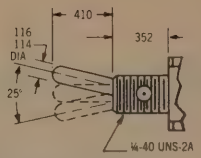


Lever and Bushing Options



T11 SERIES (SPDT, DPDT, 3PDT, 4-pole DT)

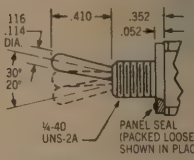
Flatted bushing with shoulder has a series designation of its own when supplied with solder lug terminals and coin silver contacts – other terminations shown on this page are also avilable.



T12 SERIES (SPDT, DPDT, 3PDT, 4-pole DT)

This series incorporates an anti-jamming feature which prevents internal damage to the switch when subjected to other than normal handling. Supplied with solder lug terminals and coin silver contacts as standard. Other terminations shown on this page are also available.

T03 – Keyway in bushing
T04 – Flatted bushing



T03 and T04 SERIES (SPDT, DPDT, 3PDT, 4-pole DT)

T04 SERIES – designed for marine use and where switch panels are exposed to various environmental conditions. This series has both a toggle and panel sealing ring to prevent moisture and other foreign matter from entering the switch and the mounting hole of the panel. T03 SERIES – has toggle seal only, but no panel sealing ring, or shoulder.

OTHER LEVER AND BUSHING OPTIONS

BUSHINGS CAN BE SUPPLIED PINNED OR UNPINNED, THREADED OR UNTHREADED

(Flat handle switches have pinned bushing as standard).

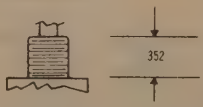
BAT HANDLE

STANDARD LEVER LENGTHS AVAILABLE (A) WITH .352 BUSHING

.200	.410	
.285	.450	
.340	.650	
	.850	



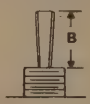
UNPINNED



PINNED



FLAT HANDLE



STANDARD LEVER LENGTHS AVAILABLE (B) WITH .352 BUSHING

.250 .448 .840

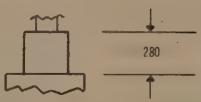
BAT HANDLE

STANDARD LEVER LENGTHS AVAILABLE (A) WITH .280 BUSHING

.270	.480
.355	.520
.410	.920



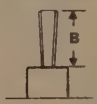
UNPINNED



PINNED



FLAT HANDLE



STANDARD LEVER LENGTHS AVAILABLE (B) WITH .280 BUSHING

.325 .520 .910

BAT HANDLE

STANDARD LEVER LENGTHS AVAILABLE (A) WITH .352 SHOULDERED BUSHING

.200	.410
.285	.450
.340	.650
	.850



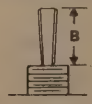
UNPINNED



PINNED



FLAT HANDLE



STANDARD LEVER LENGTHS AVAILABLE (B) WITH .352 SHOULDERED BUSHING

.250 .448

TERMINAL OPTIONS



MPC
Printed Circuit



T01
Wire Wrap



T13
Push On



JMT
Solder Lug



T02
Printed Circuit Right Angle or Vertical

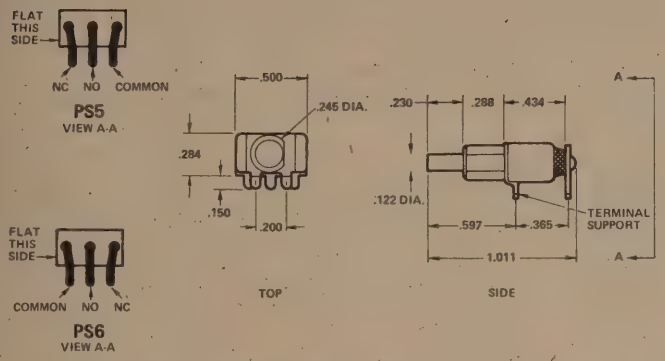
Other Types Available
Contact your Sales Representative

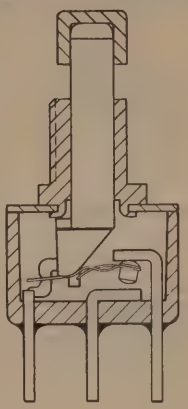
Sensitive Push Button Switches — P.C. Terminals (Momentary Action)

PS SERIES 5 AMP

RIGHT ANGLE MOUNT IN P. C. BOARDS (HORIZONTAL)









Basic P/N	Terminal-Rating	Poles	Size	Cap Color
PS	5 - Rt. Angle P.C. Mount 5 amp 6 - Rt. Angle P.C. Mount 5 amp	1 - One	0 - No Cap 1 - .200 Dia. 2 - .375 Dia. 3 - .450 Sq.	0 - No Cap 1 - Black 2 - White 3 - Red

ORDERING EXAMPLES:

PS5-100 = (Rt. Angle P.C. mount 5 amp.) One-pole, No Cap, No Color

P S 5 | 1 0 0 | option

PS6-121 = (Rt. Angle P.C. mount 5 amp.) One-pole, .375 Dia. Black Cap

P S 6 | 1 2 1 | option

OPTION: Gold Plated Current Carrying Parts

B — Add suffix "B" to part number when 50 millionths gold plated over 100 millionths nickel over brass current carrying parts are required. 100 millionths gold also available on special order.

G — Add suffix "G" to part number when 50 millionths gold plated over 100 millionths nickel over silver current carrying parts are required. 100 millionths gold available on special order.

Description	P/N	Color
Small Cap .200	W-KN-16	Black
	W-KN-16A	White
	W-KN-16B	Red
Large Cap .375	W-KN-17	Black
	W-KN-17A	White
	W-KN-17B	Red
Square Cap .450	W-KN-18	Black
	W-KN-18A	White
	W-KN-18B	Red

SPECIFICATIONS

Contact Rating — 5 Amp resistive @ 125 VAC or 28 VDC.
Contact Resistance — 50 milliohms maximum.
Insulation Resistance — 1,000 megohms minimum.
Dielectric Strength — 1,000 volts RMS minimum at sea level.
Electrical Life — 60,000 cycles minimum at full load.
Maximum Allowable Installation Force on Plunger — 10 pounds.

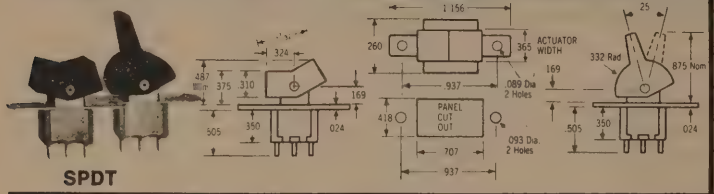
MATERIALS

Case — Dially Phthalate (DAP).
Bushing — Brass, nickel plated.
Housing — Stainless steel.
Plunger — Thermoplastic.
Common Contact — Silver with gold flash for solderability.
Center & End Contact — Brass, silver inlay and gold flash for solderability.

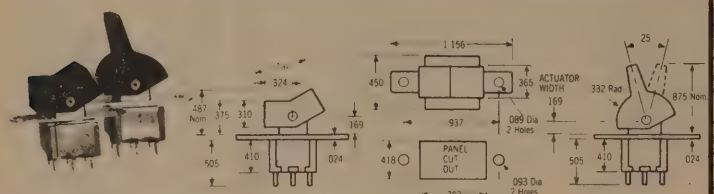
MR1 SERIES 6A (Rocker Actuator)

MP1 SERIES 6A (Paddle Actuator)

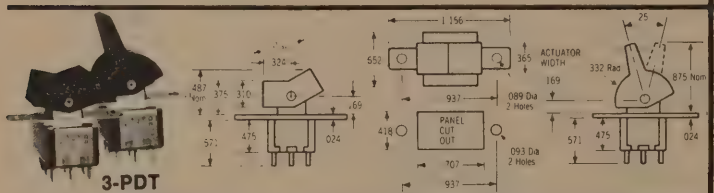
DIRECT PANEL MOUNT



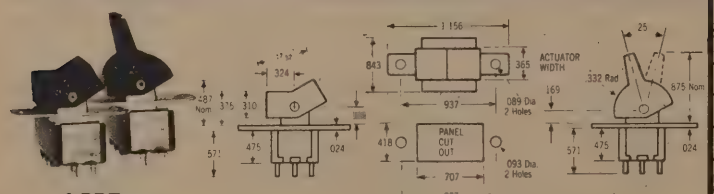
SPDT



DPDT



3-PDT



4-PDT

MR1 MODEL NO.	CIRCUITRY			MP1 MODEL NO.
MR1-121	ON	OFF	ON	MP1-121
MR1-123	ON	NONE	ON	MP1-123
MR1-126	ON	NONE	ON*	MP1-126
MR1-127	ON*	OFF	ON*	MP1-127
MR1-131	ON	OFF	ON*	MP1-131
MR1-221	ON	OFF	ON	MP1-221
MR1-223	ON	NONE	ON	MP1-223
MR1-226	ON	NONE	ON*	MP1-226
MR1-227	ON*	OFF	ON*	MP1-227
MR1-231	ON	OFF	ON*	MP1-231*
MR1-232	ON	ON	ON	MP1-232
MR1-233	ON	ON	ON*	MP1-233
MR1-235	ON*	ON	ON*	MP1-235
MR1-321	ON	OFF	ON	MP1-321
MR1-323	ON	NONE	ON	MP1-323
MR1-327	ON*	OFF	ON*	MP1-327
MR1-331	ON	OFF	ON*	MP1-331
MR1-421	ON	OFF	ON	MP1-421
MR1-423	ON	NONE	ON	MP1-423
MR1-427	ON*	OFF	ON*	MP1-427
MR1-431	ON	OFF	ON*	MP1-431
MR1-432	ON	ON	ON	MP1-432
MR1-433	ON	ON	ON*	MP1-433
MR1-435	ON*	ON	ON*	MP1-435

*Momentary

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance —10 milliohms max. 3 VDC, 100 ma.

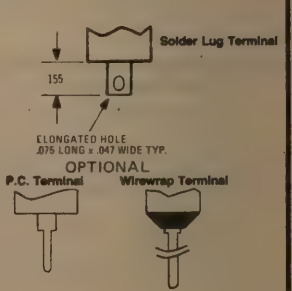
Insulation Resistance — 20,000 megohms, min. For DAP bodies; 10,000 megohms, min. for Phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Notes: These SERIES are also available on special order with brass, gold plated current carrying parts (0.5 VA).

MATERIALS

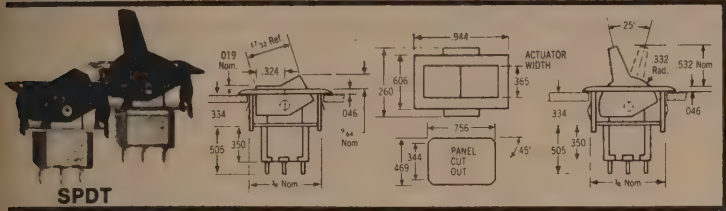
Base (body) — 1- and 2- pole — dially phthalate (DAP). 3- and 4-pole — high strength phenolic.
Rocker/Paddle — Molded nylon — black is supplied as standard. Red and White available. Add R to end of Model No. for Red, W for White. Ex: MR1-121R
Bushing — Brass, nickel plated.
Clamp (frame) — Stainless Steel
Switching Contacts and Rockers — MR1/MP1 SERIES — Coin Silver
Center Terminal — MR1/MP1 SERIES — Silver plated brass.
Hardware — MR1/MP1 SERIES — 2 ea. spacers, .264 Long — W-SPA-11B; 2 ea. 2-56 " x 1/2" binding head screws; 2 ea. 2-56 " hex nuts. 2 ea. Lockwashers.



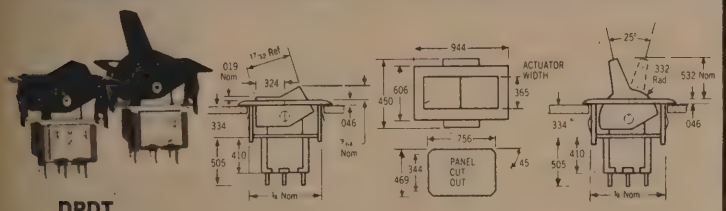
Rocker & Paddle Switches

MR2 SERIES	6A (Rocker Actuator)
MP2 SERIES	6A (Paddle Actuator)

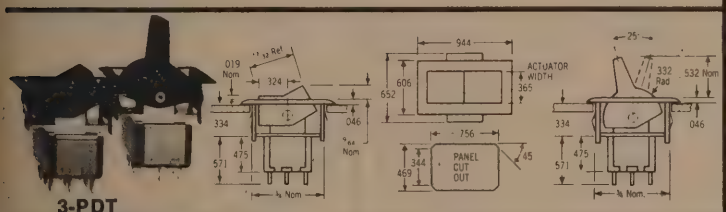
DIRECT BEZEL PANEL MOUNT



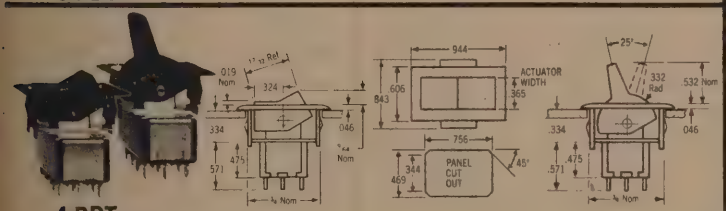
MR2 MODEL NO.	CIRCUITRY			MP2 MODEL NO.
MR2-121	ON	OFF	ON	MP2-121
MR2-123	ON	NONE	ON	MP2-123
MR2-126	ON	NONE	ON*	MP2-126
MR2-127	ON*	OFF	ON*	MP2-127
MR2-131	ON	OFF	ON*	MP2-131



MR2-221	ON	OFF	ON	MP2-221
MR2-223	ON	NONE	ON	MP2-223
MR2-226	ON	NONE	ON*	MP2-226
MR2-227	ON*	OFF	ON*	MP2-227
MR2-231	ON	OFF	ON*	MP2-231
MR2-232	ON	ON	ON	MP2-232
MR2-233	ON	ON	ON*	MP2-233
MR2-235	ON*	ON	ON*	MP2-235



MR2-321	ON	OFF	ON	MP2-321
MR2-323	ON	NONE	ON	MP2-323
MR2-327	ON*	OFF	ON*	MP2-327
MR2-331	ON	OFF	ON*	MP2-331



MR2-421	ON	OFF	ON	MP2-421
MR2-423	ON	NONE	ON	MP2-423
MR2-427	ON*	OFF	ON*	MP2-427
MR2-431	ON	OFF	ON*	MP2-431
MR2-432	ON	ON	ON	MP2-432
MR2-433	ON	ON	ON*	MP2-432
MR2-435	ON*	ON	ON*	MP2-435

SPECIFICATIONS:

Contact Rating — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance —10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. For DAP bodies; 10,000 megohms, min. for Phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Notes: These SERIES are also available on special order with brass, gold plated current carrying parts.

MATERIALS

Base (body) — 1- and 2-pole — dially phthalate (DAP). 3- and 4-pole — high strength phenolic.

Rocker/Paddle — Molded nylon — black is supplied as standard. Red and White available. Add R to end of Model No. for Red, W for White. Ex: MR2-421W

Bushing — Brass, nickel plated.

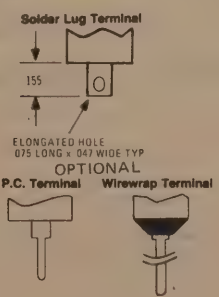
Clamp (frame) — Stainless steel

Bezel — Spring steel — black is supplied as standard.

Switching Contacts and Rockers — MR2/MP2 SERIES — Coin silver.

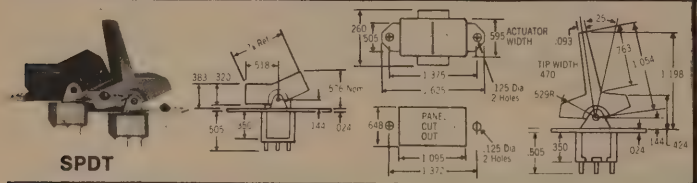
Center Terminal — MR2/MP2 SERIES — silver plated brass.

* Momentary



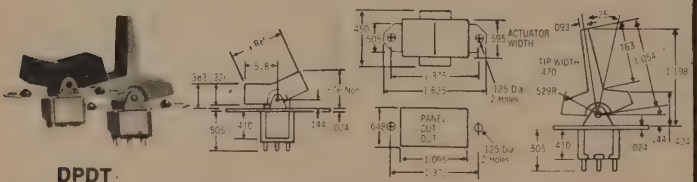
MR3 SERIES	6A (Rocker Actuator)
MP4 SERIES	6A (Paddle Actuator)

DIRECT PANEL MOUNT



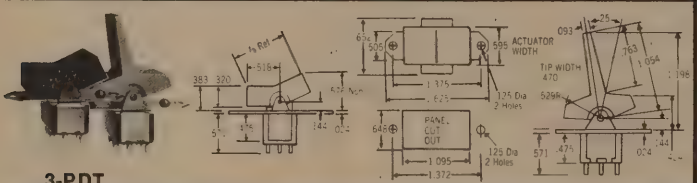
SPDT

MR3 MODEL NO.	CIRCUITRY			MP4 MODEL NO.
MR3-121	ON	OFF	ON	MP4-121
MR3-123	ON	NONE	ON	MP4-123
MR3-126	ON	NONE	ON*	MP4-126
MR3-127	ON*	OFF	ON*	MP4-127
MR3-131	ON	OFF	ON*	MP4-131



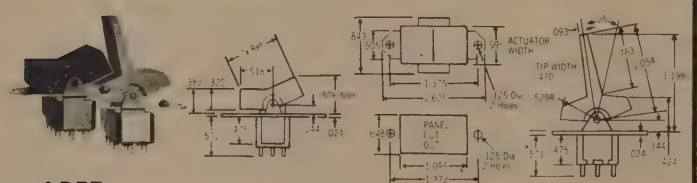
DPDT

MR3-221	ON	OFF	ON	MP4-221
MR3-223	ON	NONE	ON	MP4-223
MR3-226	ON	NONE	ON*	MP4-226
MR3-227	ON*	OFF	ON*	MP4-227
MR3-231	ON	OFF	ON*	MP4-231
MR3-232	ON	ON	ON	MP4-232
MR3-233	ON	ON	ON*	MP4-233
MR3-235	ON*	ON	ON*	MP4-235



3-PDT

MR3-321	ON	OFF	ON	MP4-321
MR3-323	ON	NONE	ON	MP4-323
MR3-327	ON*	OFF	ON*	MP4-327
MR3-331	ON	OFF	ON*	MP4-331



4-PDT

MR3-421	ON	OFF	ON	MP4-421
MR3-423	ON	NONE	ON	MP4-423
MR3-427	ON*	OFF	ON*	MP4-427
MR3-431	ON	OFF	ON*	MP4-431
MR3-432	ON	ON	ON	MP4-432
MR3-433	ON	ON	ON*	MP4-433
MR3-435	ON*	ON	ON*	MP4-435

SPECIFICATIONS:

Contact Rating — MR3/MP4 SERIES — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 milliohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms, min. For DAP bodies; 10,000 megohms, min. for Phenolic bodies.

Dielectric Strength — 1,000 volts rms at sea level.

Notes: These SERIES are also available on special order with brass, gold plated current carrying parts (0.5 VA).

MATERIALS

Base (body) — 1- and 2-pole — dially phthalate (DAP). 3- and 4-pole — high strength phenolic.

Rocker/Paddle — Molded nylon — black is supplied as standard. Red and White available. Add R for Red, W for White. EX MR3-121R

Bushing — Brass; nickel plated.

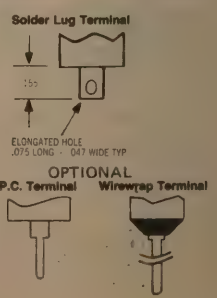
Clamp (frame) — Stainless steel.

Switching Contacts and Rockers — MR3/MP4 SERIES — Coin silver.

Center Terminal — MR3/MP4 SERIES — silver plated brass.

Hardware — 2 ea. spacers, .264 Long-W-SPA-12B; 2 ea. 4-40 x 5/8" binding head screws; 2 ea. 4-40" hex nuts. 2 ea. Lockwashers.

*Momentary

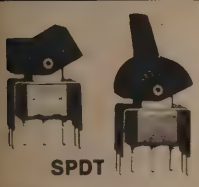


MR5 SERIES 0.5VA (Rocker Actuator)

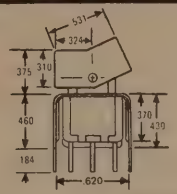
MP5 SERIES 0.5VA (Paddle Actuator)

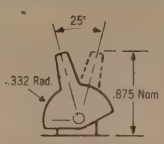
Rocker and Paddle Lever Switches — P.C. and Solder Terminals

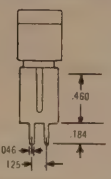
DIRECT P.C. SUPPORT MOUNT



SPDT



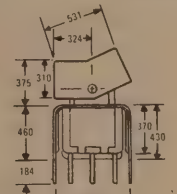


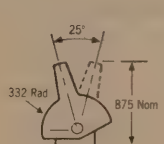


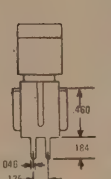
MR5 MODEL NO.	CIRCUITRY			MP5 MODEL NO.
MR5-121	ON	OFF	ON	MP5-121
MR5-123	ON	NONE	ON	MP5-123
MR5-126	ON	NONE	ON*	MP5-126
MR5-127	ON*	OFF	ON*	MP5-127
MR5-131	ON	OFF	ON*	MP5-131



DPDT







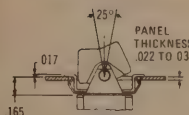
MR5-221	ON	OFF	ON	MP5-221
MR5-223	ON	NONE	ON	MP5-223
MR5-226	ON	NONE	ON*	MP5-226
MR5-227	ON*	OFF	ON*	MP5-227
MR5-231	ON	OFF	ON*	MP5-231
MR5-232 Note A	ON	ON	ON	MP5-232 Note A
MR5-233 Note A	ON	ON	ON*	MP5-233 Note A
MR5-235 Note A	ON*	ON	ON*	MP5-235 Note A

MR6 MR7 SERIES **MP6 MP7 SERIES** (P Designates Paddle) 6A (R Designates Rocker)

SNAP-IN MOUNT

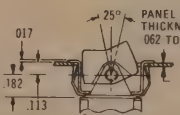


SPDT



MR6 MP6



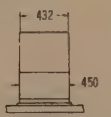


MR7 MP7



DPDT







PANEL CUTOUT .500 x .600 INCHES

MR6 MR7 MODEL NO.	CIRCUITRY			MP6 MP7 MODEL NO.
MR6-121 MR7-121	ON	OFF	ON	MP6-121 MP7-121
MR6-123 MR7 123	ON	NONE	ON	MP6-123 MP7-123
MR6 126 MR7-126	ON	NONE	ON*	MP6-126 MP7-126
MR6-127 MR7-127	ON*	OFF	ON*	MP6-127 MP7-127
MR6-131 MR7-131	ON	OFF	ON*	MP6-131 MP7-131
MR6-221 MR7-221	ON	OFF	ON	MP6-221 MP7-221
MR6-223 MR7-223	ON	NONE	ON	MP6-223 MP7-223
MR6 226 MR7-226	ON	NONE	ON*	MP6-226 MP7-226
MR6-227 MR7-227	ON*	OFF	ON*	MP6-227 MP7-227
MR6-231 MR7-231	ON	OFF	ON*	MP6-231 MP7-231
MR6-232† MR7-232†	ON	ON	ON	MP6-232† MP7-232†
MR6-233† MR7-233†	ON	ON	ON*	MP6-233† MP7-233†
MR6-235† MR7-235†	ON*	ON	ON*	MP6-235† MP7-235†

*Momentary

SPECIFICATIONS:

Contact Rating — MR5, MP5 Series — 0.5 volt-amp (VA) @ 28V Max. (AC or DC) — MR6, MR7, MP6, MP7 Series — 6 amp at 125 VAC, 3 amp at 250 VAC, 6 amp at 28 VDC resistive — UL listed.

Life Under Load — 100,000 make-and-break cycles for suffix-23 models; 60,000 for others — resistive load only.

Initial Contact Resistance — 10 millohms max. 3 VDC, 100 ma.

Insulation Resistance — 20,000 megohms min.

Dielectric Strength — 1,000 volts rms. at sea level.

MATERIALS:

Base (body) — All Series — Diallyl Phthalate (DAP)

Rocker or Paddle — Molded nylon — black supplied as standard. Red and White available. Add R to end of Model No. for Red, W for White. EX. MR6-123W

Bushing — Brass, nickel plated.

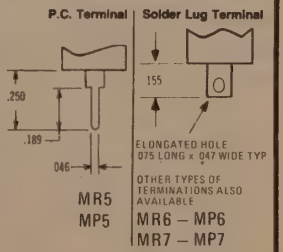
Clamp (frame) — Stainless steel.

Support Bracket — Steel, tin plated.

Switching Contacts and Rockers — MR5, MP5 — Brass, 50 millionth gold plated over nickel. MR6, MR7, MP6, MP7 Series — Coin Silver.

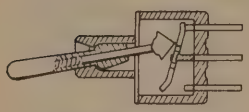
Center Terminal — MR5, MP5 — Brass, 50 millionth gold plated over nickel. MR6, MR7, MP6, MP7 Series — Silver plated brass.

NOTES:
1. MR5, MP5 Series also available on special order with 5 amp rating.
2. MR6, MP6, MR7, MP7 Series are also available on special order with brass, gold plated current carrying parts (0.5 VA).
3. Other terminal options are also available.

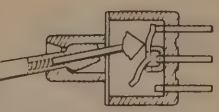


Mounting Hardware, Mechanical and Other Information

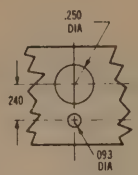
CONSTRUCTION DETAIL



2 POSITION on-none-on



3-POSITION on-off-on



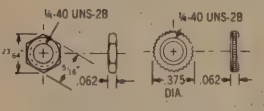
For ¼" Bushing and Standard Locking Ring



For ¼" Flatted Bushing

MOUNTING HARDWARE

For Switches with ¼-40 UNS — 2A bushings (see listing below this table for finishes available)



W-NU-11 Std. Hex Nut | W-NU-12 Knurled Nut | W-NU-14A Fixed Dress Nut — No Flats



W-NU-17A Adjustable Dress Nut — No Flats



W-NU-18A Adjustable Dress Nut — with Flats



W-NU-19A Fixed Dress Nut — with Flats



W-RI-12 Std. Locking Ring



W-WA-16 Internal Tooth Lockwasher

FINISHES AVAILABLE FOR MOUNTING HARDWARE (order by part number)

Part No.	Description	Finish
W-NU-11	Standard Hex Nut	Bright Nickel
W-NU-12	Knurled Nut	Bright Nickel
W-NU-14A	Brass, Fixed Dress	Satin Chrome
-14B	nut with stops	Bright Nickel
W-NU-17A†	Brass, adjustable	Satin Chrome
-17B	Dress nut — no	Bright Nickel
-17E	flats	Bright Chrome
W-NU-17D	Aluminum, adjustable	Black Anodized
-17F	Dress Nut — no flats	Clear Anodized
W-NU-18A	Brass, adjustable Dress	Satin Chrome
-18B	nut with flats	Bright Nickel
-18E		Bright Chrome
-18D	(same except aluminum)	Black Anodized
W-NU-19A	Brass, Fixed Dress	Satin Chrome
-19B	Nut with flats	Bright Nickel

† Supplied as standard on LFH and FH Series unless otherwise specified.

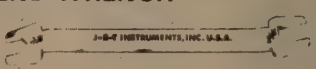
COLOR CAPS



Tight-grip insulator caps for color coding are available for easy attachement before or after switches are mounted. W-CAP-10 for standard length (.400 beyond bushing) bat handles; W-CAP-14 for special length bat handles is available on special order. When ordering, specify color by part number.

W-CAP-10	Color
A	White
B	Blue
C	Red
D	Black
E	Brown
F	Orange
G	Yellow
H	Green
I	Violet
J	Gray

END WRENCH



Thin wrench for mounting nuts W-NU-11, 18 and 19.
W-TL-124

EPOXY SEALED TERMINALS



E — Add Suffix "E" to part number when Epoxy sealed terminals are required. Standard on T01, T08, T13 and T14 Series.

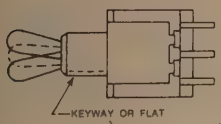
GOLD PLATED CURRENT CARRYING PARTS

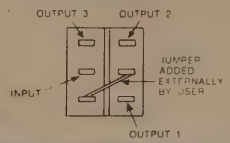
Gold Plated Current Carrying Parts

B — Add suffix "B" to part number when 50 millionths gold plated over 100 millionths nickel over brass current carrying parts are required. This option is standard on T01, T02, T06, T08, T14, T15, T16, MR5 and MP5 Series. 100 millionths gold also available on special order.

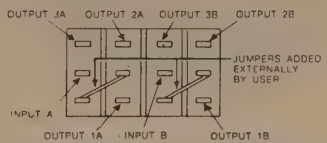
G — Add suffix "G" to part number when 50 millionths gold plated over 100 millionths nickel over silver current carrying parts are required. 100 millionths gold available on special order.

WIRING FOR 3 POSITION CONVERSION





Single Pole Using Double Pole Switch
(For 232, 233 and 235 Circuits)



Double Pole Using 4 Pole Switch
(For 432, 433 and 435 Circuits)

TOGGLE UP	Output 1	Output 1A, 1B
TOGGLE CENTER	Output 2	Output 2A, 2B
TOGGLE DOWN (Keyway or Flat)	Output 3	Output 3A, 3B

ELECTRICAL DIAGRAMS



SP



3-P

ALL EXCEPT 232,233,235 Note A



DP

ALL EXCEPT 432,433,435 Note B

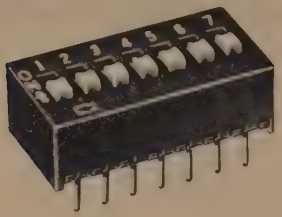


4-P

NOTES

NOTE A: Circuitry	LEVER LEFT	CENTER	RIGHT (KEYWAY)	NOTE B: Circuitry	LEVER LEFT	CENTER	RIGHT (KEYWAY)
232	On 2-3, 5-6	On 2-3, 4-5	On 1-2, 4-5	432	On 2-3 8-9, 5-6 11-12	On 2-3 8-9, 4-5 10-11	On 1-2 7-8, 4-5 10-11
233	On 2-3, 5-6	On 2-3, 4-5	On* 1-2, 4-5	433	On 2-3 8-9, 5-6 11-12	On 2-3 8-9, 4-5 10-11	On* 1-2 7-8, 4-5 10-11
235	On* 2-3, 5-6	On 2-3, 4-5	On* 1-2, 4-5	435	On* 2-3 8-9, 5-6 11-12	On 2-3 8-9, 4-5 10-11	On* 1-2 7-8, 4-5 10-11

Other configurations available on special order.



SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Number of Stations	Catalog Number	Number of Stations	Catalog Number	Number of Stations	Catalog Number
2	**SE2AV591-2**	5	**SE2AV591-5**	8	**SE2AV591-8**
3	**SE2AV591-3**	6	**SE2AV591-6**	9	**SE2AV591-9**
4	**SE2AV591-4**	7	**SE2AV591-7**	10	**SE2AV591-10**

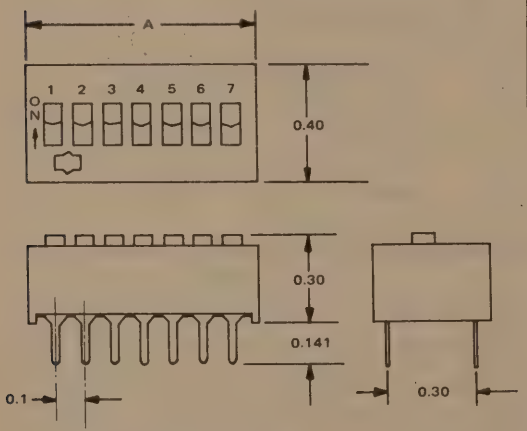
Sub-Miniature Switches for Printed Circuit Boards

DIP Switches

SPECIFICATIONS

- Electrical ratings—100 ma maximum at 50 Vdc (carry); 100 ma maximum at 5 Vdc or 25 ma maximum at 25 Vdc (switch)
- Electrical life—10,000 operations minimum
- Mechanical life—10,000 operations minimum
- Contact resistance—.10 ohms maximum
- Insulation resistance—1,000 megohms between adjacent terminals
- Dielectric strength—500 Vac between adjacent terminals
- Capacitance—Not more than 5 pF between adjacent stations
- Circuitry—Multiple stations, single pole single throw
- Materials—contacts and terminals are gold plated heat treated Beryllium copper

APPROXIMATE DIMENSIONS



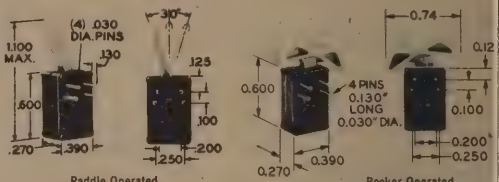
DIMENSION "A"

Number of Stations	Dimensions in Inches
2	0.280
3	0.380
4	0.480
5	0.580
6	0.680
7	0.780
8	0.880
9	0.980
10	1.080

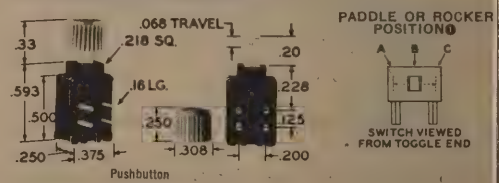
SPECIFICATIONS

- Mechanical life — 500,000 operations minimum
- Contact resistance — 25 milliohms maximum
- Dielectric strength — 1000 Vac rms
- Ambient temperature range — −20°C to +70°C
- Weight — 0.06 ounces

PADDLE AND ROCKER OPERATED SWITCHES APPROXIMATE DIMENSIONS



PUSHBUTTON SWITCHES APPROXIMATE DIMENSIONS



CURRENT RATINGS

Load	Nominal Rating, Amperes			
	6V dc	12V dc	28V dc	125V ac
Resistive	1	1	0.5	0.5

SELECTION TABLE

(**Bold** Face Type indicates items normally in Distributor Stock

Circuit with Lever in . . .●			Poles & Throw	Catalog Number	
Position A	Position B	Position C		Paddle Operated	Rocker Operated
ON	NONE	ON		**SF6TCX392**	**SC6TCX392**
ON	NONE	ON*		**TQX392**	**TQX392**
ON*	NONE	ON	2	**TEX392**	**TEX392**
ON	OFF	ON*		**TFX392**	**TFX392**
ON*	OFF	ON	Circ.	**TAX392**	**TAX392**
ON	OFF	ON		**TBX392**	**TBX392**
ON*	OFF	ON*		**THX152**	**THX392**

* Momentary Contact.

SELECTION TABLE

(**Bold** Face Type indicates items normally in Distributor Stock

Circuits	Operation	Base Cat. No.	Optional Knob		
			Color	Code● Suffix	Catalog Number
2	Momentary	**SA27TDX39**	Red	-2	**SW53AA139**
2	Momentary or Latch-Down●	**SA27TEX39**	Black	-3	**SW53AA140**

● To order switch with knob, add Code Suffix Number of knob to switch Base Catalog Number. Example: SA27TDX39-2.

● For latch-down, depress plunger and rotate 30° clockwise.

Illuminated Miniature Pushbuttons

SPECIFICATIONS

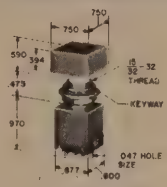
- Contact rating — 5 amperes resistive at 125 Vac or 28 Vdc
- Electrical Life — 25,000 operations minimum
- Mechanical life — 50,000 operations minimum
- Contact resistance — 10 milliohms maximum
- Insulation resistance — 100 megohms minimum
- Dielectric strength — 1000 Vac rms at sea level
- Materials — contacts and terminals are copper and silver alloy; movable contacts are silver cadmium oxide alloy

SELECTION (Items shown in **Bold** Face Type are normally stocked)

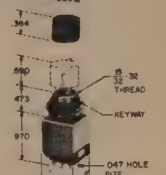
Poles and Throw	Contact Operation	Base Catalog Number ❶	Suffix Numbers — Add to Base Catalog Number: Bulb Voltage — Voltage	Bulb Voltage — Suffix Number	Operator Cap Style — Style	Operator Cap Style — Suffix Number	Operator Cap Color — Color	Operator Cap Color — Suffix Number	Optional Snap-In Mounting Superstructure ❷ — Color	Optional Snap-In Mounting Superstructure ❷ — Code Suffix
TWO POLE										
2 P.D.T.	Momentary Push On-Push Off	**SB1DDX DEX**	6 14 28 **NO BULB** 110/220 Neon ❶	1 2 4 6 3	3/4" Square 1/2" Round .340" Round	**91** **92** **93**	White Red Green Amber Red Diffuser	-1 -2 -3 -4 -5●	White Red Grey Black	**A1** **A2** **A5** **A6**
INDICATOR ONLY										
Indicator Only		**SB1DLX**	6 14 28 **NO BULB** 110/220 Neon ❶	1 2 4 6 3	3/4" Square 1/2" Round .340" Round	**91** **92** **93**	Green Diffuser Amber Diffuser Blue	-8● -7● -8●		

❶ Add suffix numbers and letters for Bulb Voltage, Operator Cap Style and Color, and Optional Snap-In Mounting Superstructure (if required). Caps and Optional Superstructure are supplied assembled.
❷ For use with 3/4 inch square operator cap only.
● Suffix Number denotes White Cap with colored diffuser. Can only be ordered with 3/4" Square Operator Cap, Suffix Number 91

APPROXIMATE DIMENSIONS



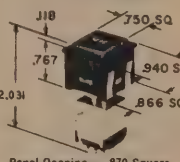
Cat. No. SB1DDX191-3 and SB1DLX191-3



Cat. No. SB1DDX192-3 and SB1DLX192-3



Cat. No. SB1DEX193-3 and SB1DLX193-3



Panel Opening — .870 Square
Recommended Panel Thickness — .039 to .156 Inches
Cat. No. SB1DDX191-1A1 and SB1DLX191-1A1

Sub-Miniature Pushbutton Switches

SPECIFICATIONS

- Contact rating — 6 amperes resistive at 125 Vac or 28 Vdc
- Electrical life — 25,000 operations minimum at full load
- Mechanical life — 100,000 operations minimum
- Contact resistance — 10 milliohms maximum at 2-4 Vdc
- Insulation resistance — 1000 megohms minimum
- Dielectric strength — 1000 Vac rms at sea level
- Materials — moveable contact is silver cadmium oxide alloy, contacts and terminals are copper and silver alloy

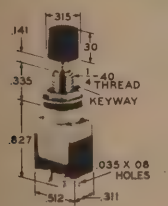
SOLDER LUG — PRINTED CIRCUIT TERMINALS — SILVER CONTACTS — SELECTION TABLE

SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

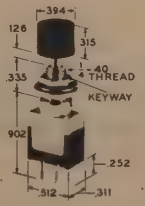
No. of Poles	Operation	Poles and Throw	Operating Force	Pre-Travel Approx.	Over Travel Approx.	Standard with Solder Lug Terminals — Base Catalog Number ❶	Watertight with Solder Lug Terminals — Base Catalog Number ❶	Standard with Printed Circuit Terminals — Base Catalog Number ❶	Suffix Number — Add to Base Catalog Number ❶: Pushbutton Style	Pushbutton Style — Code Suffix	Pushbutton Color — Color	Pushbutton Color — Code Suffix
1	Momentary	1 P.D.T.	2.5 ± .2 Lb.	.105"	.030"	**SA41SDW1**	**SA41WDW1**	**SA41SDW6**	.315 Dia. Round	1	White	-1
	Push-Push	1 P.D.T.	1.6 ± .2 Lb.	.105"	.030"	**SEW1**	**WEW1**	**SEW6**			Red	-2
2	Momentary	2 P.D.T.	3.5 ± .3 Lb.	.105"	.030"	**SA42SDW1**	**SA42WDW1**	**SA42SDW6**			Black	-3
	Push-Push	2 P.D.T.	2.3 ± .2 Lb.	.105"	.030"	**SEW1**	**WEW1**	**SEW6**			Blue	-4
4	Momentary	4 P.D.T.	4.4 ± .4 Lb.	.105"	.030"	**SA44SDW1**	**SA44WDW1**	**SA44SDW6**	.394 Dia. Round	2	Yellow	-5
	Push-Push	4 P.D.T.	3.2 ± .2 Lb.	.105"	.030"	**SEW1**	**WEW1**	**SEW6**			Green	-6

❶ Add suffix numbers for Pushbutton Style and Color. Caps are supplied unassembled.

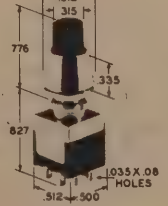
APPROXIMATE DIMENSIONS



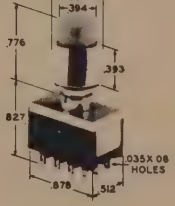
With Code 1 Pushbutton



With Code 2 Pushbutton



With Optional SW2AA10 Mounting Bezel



With Optional SW2AA37 Mounting Bezel

Switch Selection

When selecting a switch, consider—

Load Requirements

- Voltage
- Current
- Horsepower
- ac or dc—
  Ac circuits are normally easier on switches than dc circuits because the current and voltage go through zero with time.

Types of Load

- Resistive
- Inductive (magnet coils, etc.)
  — Inrush current
  — Sealed current
- Motor
  — Inrush current
  — Locked rotor current
  — Running current
- Lamp load
- Rectifier load
- Dry circuit

Life

- Number of operations
- Intermittent duty cycle (portable tools, etc.)
- Prolonged operation (switch on for weeks or months)

Environment

- Vibration and shock level
- Sand, dust and other contaminants
- Temperature extremes
- Fungus
- Salt spray and other corrosive atmospheres
- Non-sealed switch
  In some instances, a non-sealed switch can be used in an environment which has very little sand, dust, water or other contaminants in the atmosphere
- Sealed switch
  Sealed switches should be used where a concentration of particles and/or moisture could enter a switch and make it ineffective.

Ratings

- A switch rating can be in **amperes only, horsepower** or **lampload only**—or a combination of these with their applicable voltages.
- Switches are not rated in watts.
- All ac ampere ratings are inductive and are determined at 75-80% power factor.
- All dc ratings are noninductive and are 100% resistive.
- Ac horsepower ratings are inductive at 40-50% power factor.
- An **ampere only** rated switch does not automatically have a horsepower capability.
- An **ampere only** rated switch does not automatically have a 6-10 times rating inrush capability.
- An inductive load application is more severe than a resistive load.
- An ac device has an "L" lampload designation—an ac/dc device has a "T" lampload deisgnation.
- A lampload is similar to horsepower load characteristics. Where a switch may have no lampload rating but has a horsepower rating, some lampload capability is available.
- Switch electrical life will increase as switch rating is decreased—though not in direct proportion.
- Most **ac only** rated switches can be used in applications for less than 30 volts dc.

UL and CSA Listings

Some of the switches in this catalog are both UL and CSA listed.

- A UL/CSA marked rating in amperes indicates a minimum electrical life of 6000 cycles make and break at switch rating—preceded by 50 cycles make and break at 150% of switch rating.
- A UL/CSA marked horsepower rating indicates a minimum of 50 operations make and break of the appropriate locked rotor value followed by 6000 operations make and break of 1/6 the ac locked rotor value or by 1/10 the dc locked rotor value.

Foreign Approvals

Eaton is an active participant in individual foreign and international specification bodies (IEC, CEE, etc.). Some Cutler-Hammer switches now have foreign listing. Consult your sales office for your specific applications.

Note: It is buyer's responsibility to determine the suitability of the Cutler-Hammer device for its application. Eaton Corporation makes no warranties and assumes no liability as to the suitability or sufficiency for buyer's application of the device.

CUTLER-HAMMER CATALOG NUMBERS TO GOVERNMENT PART NUMBERS

Cross References

C-H Catalog No.	Government Part No.	C-H Catalog No.	Government Part No.	C-H Catalog No.	Government Part No.	C-H Catalog No.	Government Part No.	C-H Catalog No.	Government Part No.
W192HA6W	MS25089-2HW	W192Y6W	MS25089-2EW	W193W7W	MS25089-3FW-1	W194PA7	MS25089-4G-1	W195P6R	MS25089-5CR
HA7	-2H-1	W193HA6	-3H	Y6	-3E	PA7R	-4GR-1	P6W	-5CW
HA7R	-2HR-1	HA6R	-3HR	Y6R	-3ER	PA7W	-4GW-1	P7	-5C-1
HA7W	-2HW-1	HA6W	-3HW	Y6W	-3EW	W6	-4F	P7R	-5CR-1
W6	-2A	HA7	-3H-1	W194HA6	-4H	W6R	-4FR	P7W	-5CW-1
W6R	-2AR	HA7R	-3HR-1	HA6R	-4HR	W6W	-4FW	PA6	-5G
W6W	-2AW	HA7W	-3HW-1	HA6W	-4HW	W7	-4F-1	PA6R	-5GR
N6	-2B	W6	-3A	HA7	-4H-1	W7R	-4FR-1	PA6W	-5GW
N6R	-2BR	W6R	-3AR	HA7R	-4HR-1	W7W	-4FW-1	PA7	-5G-1
N6W	-2BW	W6W	-3AW	HA7W	-4HW-1	Y6	-4E	PA7R	-5GR-1
P6	-2C	N6	-3B	W6	-4A	Y6R	-4ER	PA7W	-5GW-1
P6R	-2CR	N6R	-3BR	W6R	-4AR	Y6W	-4EW	W6	-5F
P6W	-2CW	N6W	-3BW	W6W	-4AW	W195HA6	-5H	W6R	-5FR
P7	-2C-1	P6	-3C	N6	-4B	HA6R	-5HR	W6W	-5FW
P7R	-2CR-1	P6R	-3CR	N6R	-4BR	HA6W	-5HW	W7	-5F-1
P7W	-2CW-1	P6W	-3CW	N6W	-4BW	HA7	-5H-1	W7R	-5FR-1
PA6	-2G	P7	-3C-1	P6	-4C	HA7R	-5HR-1	W7W	-5FW-1
PA6R	-2GR	P7R	-3CR-1	P6R	-4CR	HA7W	-5HW-1	Y6	-5E
PA6W	-2GW	P7W	-3CW-1	P6W	-4CW	W6	-5A	Y6R	-5ER
PA7	-2G-1	PA6	-3G	P7	-4C-1	W6R	-5AR	Y6W	-5EW
PA7R	-2GR-1	PA6R	-3GR	P7R	-4CR-1	W6W	-5AW	WC150PAB6	MS27903-3
PA7W	-2GW-1	PA6W	-3GW	P7W	-4CW-1	N6	-5B	PAB6R	-4
W6	-2F	PA7	-3G-1	PA6	-4G	N6R	-5BR	PB6	-1
W6R	-2FR	PA7R	-3GR-1	PA6R	-4GR	N6W	-5BW	PB6R	-2
W6W	-2FW	PA7W	-3GW-1	PA6W	-4GW	P6	-5C	WB6	-5
W7	-2F-1	W6	-3F					WB6R	-6
W7R	-2FR-1	W6R	-3FR						
W7W	-2FW-1	W6W	-3FW						
Y6	-2E	W7	-3F-1						
Y6R	-2ER	W7R	-3FR-1						

INDEX TO SWITCH RATING TABLE

Catalog Number	Rating Column	Catalog Number	Rating Column	Catalog Number	Rating Column	Catalog Number	Rating Column	Catalog Number	Rating Column	Catalog Number	Rating Column	Catalog Number	Rating Column
7660	17, 18	8217	1	8740	15, 16	8813	4	8844	26	8895	8	WC1500	39
7661	17	8271	1	8742	15	8815	4	8845	26	8895	9		
7662	17	8272	1	8744	15	8816	3	8855	27	8896	8		
7663	17	8275	1	8747	16	8817	4	8856	27	8897	8		
7664	17	8500	19, 20	8748	16	8818	4	8857	3	D Series	29		
7665	17	8501	21, 22	8749	16	8819	4	8857*	4	E Series	30		
7666	18	8502	23, 24	8772	10	8820	13, 14	8858	13	F Series	31		
7668	18	8503	19, 20	8780	5	8821	13	8858*	14	G Series	32		
7670	18	8504	21, 22	8781	5	8822	13	8859	18	K Series	33		
7671	18	8505	23, 24	8782	5	8823	13	8859*	19	S Series	34		
7672	18	8570	19, 20	8783	6	8824	13	8860	13	B2000	42		
7673	18	8571	21, 22	8784	6	8825	13	8860*	14	B5200	36		
7674	18	8572	23, 24	8785	6	8826	14	8866	28	B7070	43		
7675	18	8573	19, 20	8790	6	8827	14	8867	28	B9000	44		
8200	1, 2	8574	21, 22	8792	6	8828	14	8868	28	C100	35		
8201	1	8575	23, 24	8800	3, 4	8829	14	8869	28	D200	400		
8207	1	8700	10, 11	8801	3	8830	14	8870	7	H11	45		
8208	2	8701	10	8802	3	8831	14	8880	17, 18	H2200	41		
8209	2	8709	11	8803	3	8833	14	8881	17	J300	37		
8210	1	8710	10	8804	3	8834	14	8882	17	T1000	46		
8211	2	8712	11	8805	3	8835	14	8883	17	T2100	47		
8212	2	8715	11	8809	4	8836	25	8884	17	T2150	48		
8213	2	8716	10	8810	3	8837	25	8885	17	T3100	49		
8214	2	8717	11	8811	4	8838	25	8887	18	W100	38		
8215	2	8718	11	8812	4	8843	26	8888	18	W190	38		

* Momentary Contact

SWITCH RATING TABLE

Switch❶ Type	Base Series Number	Line Number	28 VDC		115 VAC 400 HZ	
			Resistive	Inductive	Resistive	Inductive
1A	"D" Series	29	15 amps	10 amps	15 amps	—
	"E" Series	30	5 amps	2.5 amps	5 amps	5 amps
	"F" Series	31	10 amps	10 amps	10 amps	10 amps
	"G" Series	32	40 amps	30 amps	30 amps	20 amps
	"K" Series	33	15 amps	10 amps	15 amps	15 amps
	"S" Series	34	10 amps	6 amps	10 amps	6 amps
1B	"C100" Series	35	10 amps	3 amps	10 amps	3 amps
	"B5200" Series	36	3 amps	1 amp	3 amps	1 amp
	"J300" Series	37	10 amps	—	10 amps	—
	"W100/W190" Series	38	10 amps	5 amps	10 amps	5 amps
	"WC1500" Series	39	3 amps	2 amps	—	—
1C	"D200" Series	40	35 amps	20 amps	15 amps	—
	"H2200" Series	41	15 amps	10 amps	15 amps	—
1D	"B2000" Series	42	8 amps	—	.3 amps	—
	"B7070" Series	43	1 amp	1 amp	1 amp	1 amp
	"B9000" Series	44	5 amps	2 amps	5 amps	2 amps
1E	"H11" Series	45	7 amps	4 amps	—	—
1F	"T1000" Series	46	10 amps	5 amps	10 amps	5 amps
	"B2100" Series	47	10 amps	5 amps	10 amps	5 amps
	"T2150" Series	48	2 amps	½ amp	2 amps	½ amp
	"T3100" Series	49	5 amps	3 amps	5 amps	3 amps

❶ Definitions of Switch Types
1A = Basic Precision Snap Action Switches When Used with Any Roller, Straight, Leaf, Pushbutton or Toggle Actuator
1B = UPA (Uniform Panel Appearance) Pushbutton Switches
1C = Pushbutton Switches
1D = Subminiature Pushbutton Switches
1E = Environment Sealed Switches
1F = Integral Toggle Switches

Switch Rating Table

Switch Type ❶		1A		1B		1A		1C	1D	1E	1A		1C	1B		1A		1B	
Basic Switch Catalog Numbers		8200	8200*	8800	8800*	8780 8781 8782	8790	8870	8895 8896 8897	8895 P.B.	8700	8700*	8450	8820 8860	8820* 8860*	8740	8740*	7660 8880	7660* 7670* 8880*
Column or Line Number		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
CURRENT CAPACITY (AMPERES)																			
Lamp Load Hot Filament Current	15Vdc	10	6	8	6	50	25	7.5	8	3	20	10	4	10	7.5	9.5	8	10	7.5
	30Vdc	7	5	6	4	35	12	4.0	5	1.5	12	7	2	7	5	5	6	7	5
	125Vac	4	2	3	2	11	7.5	2	3	1	7	4	1	4	2	3	4	4	2
Resistance Load	15Vdc	50	35	45	30	175	100	25	40	30	55	55	10	30	30	30	25	30	30
	30Vdc	25	20	25	20	175	80	25	40	20	40	30	8	25	20	25	25	25	20
	125Vac	15	15	11	11	55	30	15	30	11	20	20	5	20	11	22	15	20	11
	200Vac	9 4	9 4	6 9	6 9	34	18.7	9.4	18 7	6.9	12 5	12 5	3	12 5	6.9	‖3 ‖	9 4	12 5	6 9
	250Vac	7.5	7.5	5.5	5.5	27.5	15	7.5	15	5.5	10	10	2	10	5.5	11	7.5	10	5 5
	440Vac	4.2	4 2	3	3	15	8	4.2	8	3	5 5	5.5		5 5	3	6	4 2	5 5	3
Inductive Load	15Vdc	25	20	25	20	60	60	15	40	25	35	30	5	25	15	30	10	25	15
	30Vdc	15	10	15	10	45	30	10	35	15	20	18	2	20	10	15	7	20	10
	125Vac	11	7.5	11	7.5	45	20	7.5	20	11	15	11	2	15	8	15	10	15	8
	200Vac	6.9	4.7	6.9	4.7	28	12.5	4.7	12.5	6.9	9.4	6.9	1.3	9.4	5.0	9.4	6.2	9.4	5.0
	250Vac	5 5	3.5	5 5	3 5	22 5	10	3 5	10 0	5.5	7.5	5 5	1 0	7 5	4 0	7 ‖	5	7.5	4 0
	440Vac	3	2	3	2	12	5 5	2	0 5	3	4	3		4	2.2	4	2.5	4	2.2
❶ Motor Load	15Vdc	40	28	36	24	175	100	24	40	24	55	55	8	30	28	30	25	25	20
	30Vdc	20	18	20	16	125	60	20	40	15	55	50	4	30	22	30	24	20	15
	125Vac	6	7	8	7	30	20	12	24	9	25	20	1.5	20	12	20	12	10	8
	200Vac	3 7	4 4	5	4 4	18 7	12 5	7 5	15	5 6	15 6	12 5	.94	12 5	7 5	12	7 5	6	5
	250Vac	3.0	3.5	4	3.5	15	10	6.0	12	4.5	12.5	10.0	.75	10	6.0	10	6.0	5	4
	440Vac	1 5	2	2 2	2	8	5 5	3.2	6 5	2 5	7	5 5		5 5	3 2	6	3 2	3	2
CURRENT CARRYING CAPACITY (ANY VALUE)																			
Continuous		55	55	50	50	175	100	25	40	30	55	55	10	30	30	30	25	30	30
15 Min. of Each Hour		60	60	55	55	190	110	30	45	35	70	70	15	30	30	40	30	30	30
5 Min. of Each 1/2 Hour		90	90	75	75	275	160	40	60	45	95	95	20	40	40	50	40	40	40
1 Min. of Each 1/4 Hour		110	110	90	90	450	225	70	80	60	120	120	35	60	60	80	70	60	60
5 Sec. of Each 1/2 Hour		250	250	200	200	1000	450	125	160	120	250	250	75	150	150	175	125	150	150
CURRENT MAKING CAPACITY																			
Maximum Inrush on any type load	15Vdc	100	60	80	60	500	250	75	80	30	200	100	40	100	75	95	80	100	75
	30Vdc	70	50	60	40	350	120	40	50	15	120	70	20	70	50	50	60	70	50
	125Vac	40	20	30	20	110	75	20	30	10	70	40	10	40	20	30	40	40	20
	200Vac	25	12.5	18 5	9.4	69	47	12 5	18.7	6.2	44	25	6.2	25	9 4	18 7	25	25	9.4
	250Vac	20	10	15	7 5	55	37 5	10	15	5	35	20	5	20	7 5	15	20	20	7 5
	440Vac	11	6	8.5	5.5	31	21	6	8.0	2.3	20	11		11	5.5	8.5	11	11	5.5
EMERGENCY CURRENT BREAKING CAPACITY																			
Opening CKT under emergency conditions for 50 operations only.	15Vdc	200	200	175	150	400	325	110	225	75	175	150	40	100	50	125	175	100	50
	30Vdc	100	100	150	75	300	200	110	180	60	200	125	20	75	45	75	125	75	45
	125Vac	20	20	40	40	110	90	165	225	85	50	35	5	40	26	65	50	40	26
	200Vac	12	12	24	24	65	55	100	140	60	30	20	3	24	16	40	30	24	16
	250Vac	9	9	18	18	50	40	80	110	50	24	17	2	18	12	30	24	18	12
	440Vac	5	5	10	10	25	20	40	50	22	12	8		10	6	15	12	10	6

Switch Type ❶		1F						1G		1H	
Basic Switch Catalog Numbers		8500 8503 8570 8573	* 8500 8503 8570 8573	8501 8504 8571 8574	* 8501 8504 8571 8574	8502 8505 8572 8575	* 8502 8505 8572 8575	8836 thru 8838	8843 thru 8845	8855 8856	8866 thru 8869
Column or Line Number		19	20	21	22	23	24	25	26	27	28
CURRENT CAPACITY (AMPERES)											
Lamp Load Hot Filament Current	15Vdc	...	...	...	...	...	...	...	...	...	...
	30Vdc	5	4	7	5	5	4	7	7	...	...
	125Vac	3	2	4	2	4	2	7	7	...	...
Resistance Load	15Vdc	...	...	...	...	...	...	...	...	...	...
	30Vdc	20	15	20	18	20	18	25	25	5	5
	125Vac	15	15	15	11	15	11	25	25	2	2
	200Vac	...	...	...	...	...	...	...	...	...	...
	250Vac	...	...	...	...	...	...	...	...	...	...
	440Vac	...	...	...	...	...	...	...	...	...	...
Inductive Load	15Vdc	...	...	...	...	...	...	...	...	...	...
	30Vdc	15	10	15	10	12	10	15	15	1	1
	125Vac	10	7	15	8	15	8	15	15	1	1
	200Vac	...	...	...	...	...	...	...	...	...	...
	250Vac	...	...	...	...	...	...	...	...	...	...
	440Vac	...	...	...	...	...	...	...	...	...	...

NOTES: 1. The Values shown for multi-pole switches are ampere per pole except for motor load.
2. Current ratings are established at 77°F.
3. All current ratings good to 50,000 ft. altitude. For higher altitude refer to local sales office
4. Ac current values good for frequencies from 50 to 400 Hertz

* Momentary contact.
❶ Definitions of Switch Types.
1A. = Flush Mount Toggle Switches
1B. = One Hole Mount Toggles
1C = Pushbutton Switches
1D = Pistol Grip Trigger Switches
1E = Pistol Grip Pushbutton Switch Only
1F = Environment Sealed Toggles
1G = Environment Sealed Positive Action Toggles
1H = Miniature Positive Action Toggles

Experience has shown that for voltages not in excess of 250, the current rating of aircraft switches is inversely proportional to the voltage. If the voltage is doubled, the rating is halved.

Therefore, if the 125 volt ac rating of a switch is known, it follows that on 200 volt ac, the current rating is 125/200 or 62.5% of its 125 volt ac rating. This rule also applies to two or three pole switches used on polyphase systems. Cutler-Hammer aircraft switches carry per pole ratings and if the current and voltage handled by each pole is known, different rating combinations can be worked out.

If a three pole switch is connected in a three phase system; assuming a balanced load, all three poles carry the same current, and therefore all three poles must be derated or uprated equally.

The same holds true for a two pole switch connected in two lines of a three phase balanced load. The current in each pole is equal.

The fact that the system is grounded or ungrounded makes no difference when two or three pole switches are used because the grounded line is not switched but remains as a thru connection.

The grounded system provides single phase for certain types of load. In such cases, the load would be controlled by a single pole switch.

A double pole switch has at least twice the rupturing capacity of one of its poles because there are twice the number of breaks in the circuit. Its life is only slightly more than that of one pole because breaks are not simultaneous. The first pole or break handles twice its normal rating resulting in rapid erosion of contact material.

MIL-S-3950 Environmentally Sealed Switches

SPECIFICATIONS

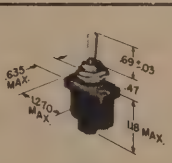
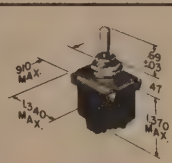
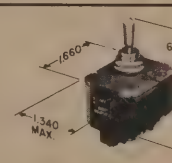
- Environmentally sealed
- Meets MIL-S-3950 requirements
- Positive detent action
- Reliable momentary action
- Base material is self-extinguishing
- High mechanical/electrical capabilities
- Molded-in terminal inserts
- Molded-in terminal identification
- Flush screw terminals
- Full silicon seal—increased electrical insulation protection
- Toggle lever throw, 33° ± 10°
- 15/32"-32 threaded bushing—Keyway .076 ± .003

NOTE: For Environmentally Sealed Switches Designed Specifically for Commercial Applications, See Page 15-17 of the Commercial Control Divisions Catalog.

CURRENT RATINGS (Standard Lever & Lever Lock Switches)

Catalog Number	Type of Operation	28 Volts D-c			115 Volts A-c 60 or 400 Hz		
		Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
8500 and 8502	Maintained	5	20	15	3	15	10
	Momentary	4	15	10	2	15	7
8501 and 8504	Maintained	7	20	15	4	15	15
	Momentary	5	18	10	2	11	8
8502 and 8505	Maintained	5	20	12	4	15	15
	Momentary	4	18	10	2	11	8

STANDARD LEVER SELECTION TABLE (Bold Face Type indicates items normally in Distributor Stock)

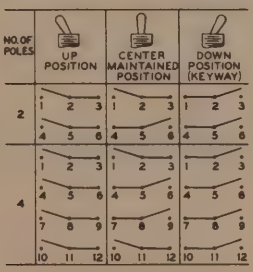
Circuit with Lever in . . .								
UP Position	CENTER Position	DOWN Position (Keyway)	ONE POLE		TWO POLE		FOUR POLE	
			MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON	OFF	ON	MS24523-21	**8500K1**	MS24524-21	**8501K1**	MS24525-21	**8502K1**
ON	NONE	OFF	-22	**K9**	-22	**K9**	-22	**K9**
ON	NONE	ON	-23	**K4**	-23	**K4**	-23	**K4**
ON	OFF	NONE	-24	**K6**	-24	**K6**	-24	K6
ON	OFF*	NONE	-25	K8	-25	K8	-25	K8
ON	NONE	ON*	MS24523-26	**8500K6**	MS24524-26	**8501K6**	MS24525-26	**8502K6**
*ON	OFF	ON*	-27	**K2**	-27	**K2**	-27	**K2**
NONE	OFF	ON*	-28	**K7**	-28	**K7**	-28	K7
ON	NONE	OFF*	-29	**K10**	-29	**K10**	-29	K10
OFF	NONE	ON*	-30	**K11**	-30	**K11**	-30	**K11**
ON	OFF	ON*	MS24523-31	**8500K3**	MS24524-31	**8501K3**	MS24525-31	**8502K3**
*ON	ON	NONE	-32	**K12**	-32	**K12**	-32	K12
ON	ON	NONE	-33	**K13**	-33	**K13**	-33	K13
ON	ON	ON	.....	.....	MS27407-1	**8501K14**	MS27406-1	**8502K15**
ON	ON	ON*	.....	.....	-2	**K15**	-2	K16
*ON	ON	ON*	.....	.....	-3	**K16**	-3	**K17**

* Momentary Contact.

OPTIONS

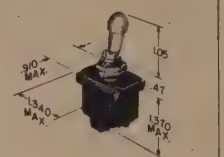
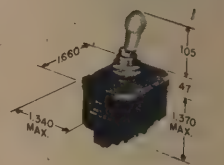
- Special mounting hardware
- Mounting hardware furnished assembled
- Terminal screws furnished assembled
- Substitute sems screws
- Special circuits
- Bushing seal, Part Number 32-341
- Special "3 Cateye" luminous lever attachment—Available on all listed switches with exception of Catalog Numbers 8503-8505
- Lever extensions and attachable tips (see Accessories and Special Devices section)

ON-ON-ON CIRCUIT DIAGRAM



MIL-S-3950 Environmentally Sealed Switches

LEVER LOCK SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Circuit with Lever in . . .			Lever Lock Bushing Style❶						
				ONE POLE		TWO POLE		FOUR POLE	
				Flush Screw Terminals		Flush Screw Terminals		Flush Screw Terminals	
UP Position	CENTER Position	DOWN Position (Keyway)		MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON➤	◀OFF➤	◀ON	1	MS24658-21A	**8503K1**	MS24659-21A	**8504K1**	MS24660-21A	8505K1
ON	◀OFF➤	◀ON	7	-21B	K27	-21B	K27	-21B	K27
ON➤	OFF	◀ON	5	-21D	K5	-21D	K5	-21D	K5
ON	◀OFF➤	ON	2	-21E	**K2**	-21E	**K2**	-21E	K2
ON➤	OFF	ON	8	-21F	K28	-21F	K28	-21F	K28
ON	OFF	◀ON	3	MS24658-21G	8503K3	MS24659-21G	8504K3	MS24660-21G	8505K3
ON➤	OFF➤	ON	9	-21H	K29	-21H	K29	-21H	K29
ON	◀OFF	◀ON	10	-21J	K30	-21J	K30	-21J	K30
ON➤	◀OFF➤	ON	11	-21K	K31	-21K	K31	-21K	K31
ON	OFF➤	ON	12	-21L	K32	-21L	K32	-21L	K32
ON➤	◀OFF	ON	6	MS24658-21M	**8503K33**	MS24659-21M	**8504K33**	MS24660-21M	8505K33
ON	◀OFF	ON	4	-21N	**K4**	-21N	**K4**	-21N	K4
ON	OFF➤	◀ON	13	-21P	K34	-21P	K34	-21P	K34
ON➤	NONE	◀OFF	5	-22D	**K10**	-22D	K10	-22D	K10
ON➤	NONE	OFF	8	-22F	K35	-22F	K35	-22F	K35
ON	NONE	◀OFF	3	MS24658-22G	**8503K9**	MS24659-22G	**8504K9**	MS24660-22G	**8505K9**
ON➤	NONE	◀ON	5	-23D	**K6**	-23D	**K6**	-23D	**K6**
ON➤	NONE	ON	8	-23F	**K36**	-23F	**K36**	-23F	K36
ON	NONE	◀ON	3	-23G	**K7**	-23G	**K7**	-23G	**K7**
ON	◀OFF	NONE	2	-24E	**K16**	-24E	K16	-24E	K16
ON➤	OFF	NONE	8	MS24658-24F	8503K37	MS24659-24F	**8504K37**	MS24660-24F	8505K37
ON➤	◀OFF➤	NONE	11	-24K	K38	-24K	K38	-24K	K38
ON➤	◀OFF	NONE	11	-24M	K11	-24M	**K11**	-24M	K11
ON➤	OFF✱	NONE	19	-25F	K22	-25F	K22	-25F	K22
ON➤	NONE	ON✱	19	-26F	K20	-26F	K20	-26F	K20
✱ON	◀OFF➤	ON✱	14	MS24658-27E	**8503K12**	MS24659-27E	**8504K12**	MS24660-27E	8505K12
✱ON	OFF➤	ON✱	21	-27L	K39	-27L	K39	-27L	K39
✱ON	◀OFF	ON✱	16	-27N	K14	-27N	K14	-27N	K14
NONE	OFF➤	ON✱	17	-28E	K15	-28E	K15	-28E	K15
ON➤	NONE	OFF✱	19	-29F	K21	-29F	K21	-29F	K21
OFF➤	NONE	ON✱	19	MS24658-30F	**8503K19**	MS24659-30F	**8504K19**	MS24660-30F	8505K19
ON	◀OFF➤	ON✱	17	-31E	**K18**	-31E	K18	-31E	K18
ON➤	OFF	ON✱	22	-31F	K40	-31F	**K40**	-31F	K40
ON➤	◀OFF➤	ON✱	23	-31K	K41	-31K	K41	-31K	K41
ON	OFF➤	ON✱	15	-31L	K13	-31L	K13	-31L	K13
ON➤	◀OFF	ON✱	20	MS24658-31M	8503K17	MS24659-31M	8504K17	MS24660-31M	8505K17
ON	◀OFF	ON✱	18	-31N	K8	-31N	K8	-31N	K8
✱ON	◀ON➤	NONE	25	-32E	K23	-32E	K23	-32E	K23
ON	◀ON➤	NONE	2	-33E	K24	-33E	K24	-33E	K24
ON➤	ON	NONE	8	-33F	K25	-33F	K25	-33F	K25
ON➤	◀ON➤	NONE	11	MS24658-33K	8503K26	MS24659-33K	8504K26	MS24660-33K	8505K26
ON➤	◀ON	NONE	11	-33M	K42	-33M	K42	-33M	K42
ON➤	◀ON➤	◀ON	1	.....	.....	MS27408-1A	K43	MS27409-1A	K43
ON	◀ON➤	◀ON	7	.....	.....	-1B	K44	-1B	K44
ON➤	ON	◀ON	5	.....	.....	-1D	K45	-1D	K45
ON	◀ON➤	ON	2			MS27408-1E	8504K46	MS27409-1E	8505K46
ON➤	ON	ON	8			-1F	K47	-1F	K47
ON	ON	◀ON	3	.....	.....	-1G	K48	-1G	K48
ON➤	ON➤	ON	9			-1H	K49	-1H	K49
ON	◀ON	◀ON	10			-1J	K50	-1J	K50
ON➤	◀ON➤	ON	11			MS27408-1K	8504K51	MS27409-1K	8505K51
ON	ON➤	ON	12			-1L	K52	-1L	K52
ON➤	◀ON	ON	6	.....	.....	-1M	K53	-1M	K53
ON	◀ON	ON	4			-1N	K54	-1N	K54
ON	ON➤	◀ON	13			-1P	K55	-1P	K55
ON	◀ON➤	ON✱	17			MS27408-2E	8504K56	MS27409-2E	8505K56
ON➤	ON	ON✱	22			-2F	K57	-2F	K57
ON➤	◀ON➤	ON✱	23	.....	.....	-2K	K58	-2K	K58
ON	ON➤	ON✱	15			-2L	K59	-2L	K59
ON➤	◀ON	ON✱	20			-2M	K60	-2M	K60
ON	◀ON	ON✱	18			MS27408-2N	8504K61	MS27409-2N	8505K61
✱ON	◀ON➤	ON✱	25			-3E	K62	-3E	K62
✱ON	ON➤	ON✱	26	.....	.....	-3L	K63	-3L	K63
✱ON	◀ON	ON✱	24			-3N	K64	-3N	K64

✱ Momentary Contact. ➤ Indicates direction against which lever is locked.

MIL-S-3950 Environmentally Sealed Switches Integrated Wire Termination System (IWTS)

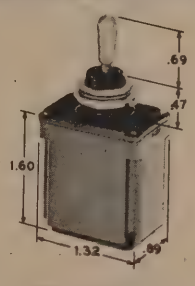
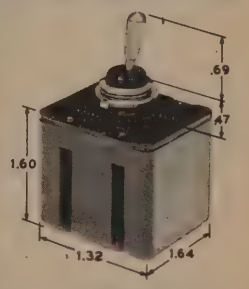
SPECIFICATIONS

- Meets MIL-S-3950 requirements
- Sealed assembly
- Positive detent action
- Reliable momentary action
- Base material is self-extinguishing
- High electrical/mechanical capabilities
- Molded-in terminal identification
- Accepts standard or reverse IWTS connector
- Full silicon seal—increased electrical insulation protection
- Accepts MIL-C-39029/1-14-16 or 16-20 pins

CURRENT RATINGS

Catalog Number	Type of Operation	28 Volts dc			115 Volts ac 60 or 400 Hz		
		Lamp Load	Resistive Load	Inductive Load	Lamp Load	Resistive Load	Inductive Load
8570 and 8573	Maintained	5	20	15	3	15	10
	Momentary	4	15	10	2	15	7
8571 and 8574	Maintained	7	20	15	4	15	15
	Momentary	5	18	10	2	11	8
8572 and 8575	Maintained	5	20	12	4	15	15
	Momentary	4	18	10	2	11	8

STANDARD LEVER SELECTION TABLE — Terminals Accept Wire Contact Within Dimensional Limits Of M39029/1-14-16

Circuit with Lever in . . .								
UP Position	CENTER Position	DOWN Position (Keyway)	ONE POLE		TWO POLE		FOUR POLE	
			MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
ON	OFF	ON	MS27722-21	8570K1 -16	MS27723-21	8571K1 -16	MS27724-21	8572K1 -16
ON	NONE	OFF	-22	K9 -16	-22	K9 -16	-22	K9 -16
ON	NONE	ON	-23	K4 -16	-23	K4 -16	-23	K4 -16
ON	OFF	NONE	-24	K6 -16	-24	K6 -16	-24	K6 -16
ON	OFF*	NONE	-25	K8 -16	-25	K8 -16	-25	K8 -16
ON	NONE	ON*	MS27722-26	8570K5 -16	MS27723-26	8571K5 -16	MS27724-26	8572K5 -16
*ON	OFF	ON*	-27	K2 -16	-27	K2 -16	-27	K2 -16
NONE	OFF	ON*	-28	K7 -16	-28	K7 -16	-28	K7 -16
ON	NONE	OFF*	-29	K10-16	-29	K10-16	-29	K10-16
OFF	NONE	ON*	-30	K11-16	-30	K11-16	-30	K11-16
ON	OFF	ON*	MS27722-31	8570K3 -16	MS27723-31	8571K3 -16	MS27724-31	8572K3 -16
*ON	ON	NONE	-32	K12-16	-32	K12-16	-32	K12-16
ON	ON	NONE	-33	K13-16	-33	K13-16	-33	K13-16
ON	ON	ON	.....	.....	MS27723-1	8571K17-16	MS27724-1	8572K15-16
ON	ON	ON*	.....	.....	-2	K18-16	-2	K16-16
*ON	ON	ON*	.....	.....	-3	K19-16	-3	K17-16

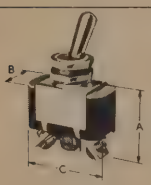
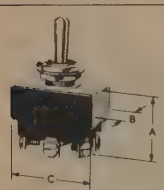
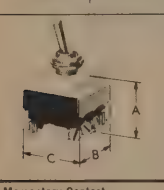
* Momentary contact.

MIL-S-83731 Switches With Lever Seal

SPECIFICATIONS

- Meets MIL-S-83731 Military requirements
- Silicone rubber lever seal prevents entry of contaminants
- Silver to silver contacts
- Screw terminals also tin dipped to facilitate soldering
- All metal parts plated for corrosion resistance
- Standard toggle length 1 1/16" — Bushing height 15/32"
- Lever lock lever length 1" — Bushing height 9/16"
- Keyway .035" deep by .068" wide
- Bushing 15/32" - 32 thread
- Terminal screws #6 - 32
- Terminal and mounting hardware furnished unassembled

STANDARD LEVER SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

	Circuit with Lever in . . .			Screw Terminals		Solder Lug Terminals		
	UP Position	CENTER Position	DOWN Position (Keyway)	MS Part Number	Catalog Number	Former JAN Number	Sealed Lever Catalog Number	Unsealed Lever Catalog Number
	ONE POLE							
	ON	OFF	ON	MS35058-21	**8800K16**	ST42E	.....	8802K6
	ON	NONE	OFF	-22	**8801K22**	ST42A	**8803K10**	8803K6
	ON	NONE	ON	-23	**8810K15**	ST42D	**8816K9**	.....
	ON	OFF	NONE	MS35058-24	**8801K23**	.....	.....	.....
	ON	OFF*	NONE	-25	8813K18	.....	.....	.....
	ON	NONE	ON*	-26	8804K13	ST42F	**8805K9**	.....
	*ON	OFF	ON*	-27	**8812K14**	ST42G	**8818K9**	.....
	NONE	OFF	ON*	MS35058-28	8811K18	.....	.....	.....
	ON	NONE	OFF*	-29	8813K17	.....	.....	.....
	OFF	NONE	ON*	-30	**8811K17**	.....	.....	.....
	ON	OFF	ON*	-31	**8809K16**	ST42H	**8815K10**	.....
	TWO POLE							
	ON	OFF	ON	MS35059-21	**8820K16**	ST52P	**8821K6**	8821K5
	ON	NONE	OFF	-22	**8822K20**	ST52K	**8823K6**	8823K5
	ON	NONE	ON	-23	**8824K14**	ST52N	**8825K6**	8825K5
	ON	OFF	NONE	-24	**8822K21**	.....	.....	.....
	ON	NONE	ON*	-26	**8830K13**	ST52R	.....	8831K5
	*ON	OFF	ON*	MS35059-27	**8834K5**	ST52S	**8835K4**	**8835K3**
	ON	NONE	OFF*	-29	8828K13	.....	.....	.....
	OFF	NONE	ON*	-30	8826K15	ST52M	.....	8827K5
	ON	OFF	ON*	-31	**8832K6**	ST52T	**8833K4**	8833K3
	ON	ON	ON	MS25201-4	**8860K4**	.....	.....	.....
	ON	ON	ON*	-5	**K6**	.....	.....	.....
	*ON	ON	ON*	-6	**K6**	.....	.....	.....
	FOUR POLE							
	ON	OFF	ON	MS25068-21	**7662K7**	.....	.....	.....
	ON	NONE	ON	-23	**7664K6**	.....	**7665K4**	.....
	ON	NONE	OFF	.....	7660K12	.....	7661K6	.....
	ON	OFF	NONE	-24	7660K13	.....	.....	.....
	ON	OFF*	NONE	-25	7668K7	.....	.....	.....
	OFF	NONE	ON*	.....	7666K6	.....	.....	.....
	ON	NONE	ON*	MS25068-26	7674K5	.....	.....	.....
	*ON	OFF	ON*	-27	7672K5	.....	.....	.....
	NONE	OFF	ON*	-28	7666K9	.....	.....	.....
	ON	OFF	ON*	-31	**T610K6**	.....	.....	.....

* Momentary Contact.

APPROXIMATE DIMENSIONS — Standard Lever Switches

Type	Dimensions in Inches					
	With Screw Terminals			With Solder Lug Terminals		
	A	B	C	A	B	C
One Pole	1.05	.63	1.13	.92	.63	1.13
Two Pole — Maintained	1.06	.75	1.31	1.06	.75	1.31
Two Pole — Momentary	1.20	.75	1.31	1.20	.75	1.31
Four Pole	1.25	1.44	1.33	1.22	1.44	1.33

CURRENT RATINGS—CIRCUIT DIAGRAM—OPTIONS

See Next Page

Integral Toggle Switches

SPECIFICATIONS

- Contact material — Silver
- Case — Anodized aluminum (T4201 Brass, nickel plated)
- Toggle lever — Brass, nickel plated (T4201, T4203 stainless, passivated — T1000 brass, cadmium plated)
- Ambient temperature range, −65° to +71°C
- Sealed versions available

CURRENT RATINGS

Catalog Number	28 Vdc			120 Vac 60 or 400 Hz			Electrical Operations Minimum
	Lamp	Resistive	Inductive	Lamp	Resistive	Inductive	
T4201	—	1	—	—	1	—	10,000
T4203	—	1	—	—	0.25	—	10,000
T2150, T2153, T2161 TW2150-DT❶, TW2150, TW2153, TW2161, TR2150	0.5	3	1 (0.75 P.F.)	0.5	3	1 (0.75 P.F.)	10,000
TW20000	0.5	2	0.5	0.5	1	0.5	20,000
T3103, T3113, TW2103 TW3113, TR3103, T3106	1	5	3	1	5	3	10,000
TW20002	0.5	1.5	0.5	0.5	1	0.5	20,000
T2106, T2114, TW2106 TR2106	3	10	5	3	10	5	10,000
TW20001	0.5	3	1	0.5	2	1	20,000
T1002, T1003, T1203	5	20	15	3	10	10	25,000

❶ Minimum operations at rated load.

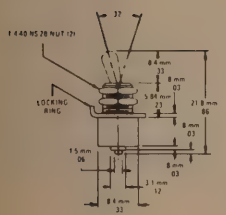
SELECTION TABLE (Bold Face Type indicates items normally in Distributor Stock)

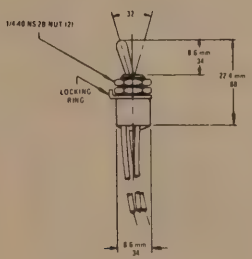


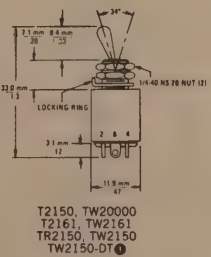
SELECTION TABLE (Bold Face Type indicates items normally in Distributor Stock)

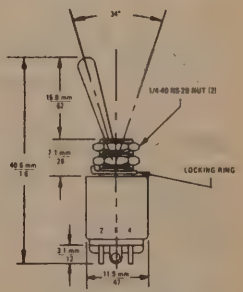
Poles and Throw	MS Part Number	Catalog Number Maintained Standard	Maintained Sealed	Maintained R.F.I.	Terminals
1 P.S.T.	—	**T4201**	—	—	Printed Circuit
1 P.D.T.	—	**T4203**	—	—	Wire Leads
2 P.D.T.	—	**T2150, T2153 T2161**	**TW2150 TW2150-DT❶ TW2153, TW2161**	**TR2150**	Solder Lug
	MS18152-1	—	**TW20000**	—	
1 P.D.T.	—	**T3103, T3106 T3113**	**TW3103 TW3113**	**TR3103**	Solder Lug
	MS18151-1	—	**TW20002**	—	
1 P.D.T. (2 Circuit)	—	**T2106, T2114**	**TW2106**	**TR2106**	Solder Lug
	MS18150-1	—	**TW20001**	—	
1 P.S.T.	—	**T1203**	—	—	Solder Lug
1 P.S.T. 1 P.D.T.	— —	**T1002 T1003**	—	—	Screw And Solder Lug

APPROXIMATE DIMENSIONS









❶ Gold Plated Contacts for Dry Circuit Applications

Multi-Circuit Toggle Switches

SPECIFICATIONS

- Stainless steel construction
- Ambient operating temperature, −65°F to +165°F
- Operating force 1 to 6 pounds
- Compact multicircuitry—2PDT to 8PDT
- Double turret terminals
- Electrical life—25,000 operations minimum
- Mechanical life—100,000 operations minimum


Standard Lever
Unsealed Basics


Lever Lock
Sealed Basics

WHEN ORDERING SPECIFY

For Standard Lever Toggle Switches
- Catalog Number—EXAMPLE: **A3-212-07**

For Lever Lock Toggle Switches
- Catalog Number plus slash (/) mark and ALPHA SUFFIX for selected Lever Locking Configuration—
  EXAMPLE: **A3-213-04/E**

CURRENT RATINGS

Load	Amperes			
	A3-200 thru A3-205 A3-212 thru A3-213		A3-206 thru A3-211 A3-214 thru A3-215	
	28Vdc	115Vac 60 Hz	28Vdc	115/250Vac 60 Hz
❶Inrush	25	20	24	15
Resistive	7	7	5	5
Inductive	4	7	3	5
Motor	---	---	3	---
Lamp	2.5	2	2.4	1.5

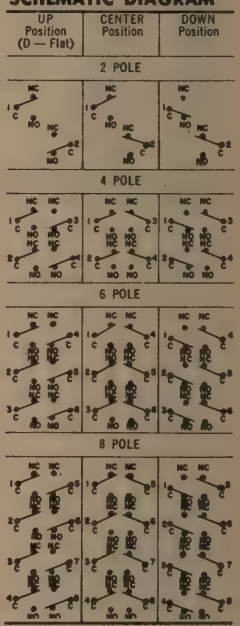
❶ 0.05 sec. duration.

STANDARD LEVER SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Circuit with Lever in . . . UP Position (D-Flat)	CENTER Position	DOWN Position	Catalog Numbers 2 Pole	4 Pole	6 Pole	8 Pole
			❶ UNSEALED BASICS (MS Numbers are in Parenthesis)			
ON	NONE	*ON	**A3-212-07** (M8805/93-007)	**A3-200-07** (M8805/93-014)	**A3-202-07** (M8805/93-021)	**A3-204-07** (M8805/93-028)
*ON	NONE	ON	**A3-212-06** (M8805/93-006)	**A3-200-06** (M8805/93-013)	**A3-202-06** (M8805/93-020)	**A3-204-06** (M8805/93-027)
ON	NONE	ON	**A3-212-05** (M8805/93-005)	**A3-200-05** (M8805/93-012)	**A3-202-05** (M8805/93-019)	**A3-204-05** (M8805/93-026)
*ON	OFF	*ON	**A3-212-04** (M8805/93-004)	**A3-200-04** (M8805/93-011)	**A3-202-04** (M8805/93-018)	**A3-204-04** (M8805/93-025)
ON	OFF	*ON	**A3-212-03** (M8805/93-003)	**A3-200-03** (M8805/93-010)	**A3-202-03** (M8805/93-017)	**A3-204-03** (M8805/93-024)
*ON	OFF	ON	**A3-212-02** (M8805/93-002)	**A3-200-02** (M8805/93-009)	**A3-202-02** (M8805/93-016)	**A3-204-02** (M8805/93-023)
ON	OFF	ON	**A3-212-01** (M8805/93-001)	**A3-200-01** (M8805/93-008)	**A3-202-01** (M8805/93-015)	**A3-204-01** (M8805/93-022)
			SEALED BASICS			
ON	NONE	*ON	**A3-214-07**	**A3-206-07**	**A3-208-07**	**A3-210-07**
*ON	NONE	ON	**-06**	**-06**	**-06**	**-06**
ON	NONE	ON	**-05**	**-05**	**-05**	**-05**
*ON	OFF	*ON	**-04**	**-04**	**-04**	**-04**
ON	OFF	*ON	**-03**	**-03**	**-03**	**-03**
*ON	OFF	ON	**-02**	**-02**	**-02**	**-02**
ON	OFF	ON	**-01**	**-01**	**-01**	**-01**

* Momentary contact.
❶ Listed under MIL-S-8805/93 Qualified Product List. (QPL)

SCHEMATIC DIAGRAM



LEVER LOCK SELECTION TABLE — Incomplete Catalog Numbers. See Ordering Instructions above.

Circuit with Lever in . . . UP Position (D-Flat)	CENTER Position	DOWN Position	Catalog Numbers 2 Pole	4 Pole	6 Pole	8 Pole	Lever Locking Configuration Suffix (See Chart on Next Page)
			UNSEALED BASICS				
ON	NONE	*ON	A3-213-07	A3-201-07	A3-203-07	A3-205-07	G
*ON	NONE	ON	-06	-06	-06	-06	F
ON	NONE	ON	-05	-05	-05	-05	D, F, G
*ON	OFF	*ON	-04	-04	-04	-04	E, L, N
ON	OFF	*ON	-03	-03	-03	-03	B, E, G, J, L, N, P
*ON	OFF	ON	-02	-02	-02	-02	E, F, H, K, L, M, N
ON	OFF	ON	-01	-01	-01	-01	A, B, D, E, F, G, H, J, K, L, M, N, P
			SEALED BASICS				
ON	NONE	ON	A3-215-07	A3-207-07	A3-209-07	A3-211-07	G
*ON	NONE	ON	-06	-06	-06	-06	F
ON	NONE	ON	-05	-05	-05	-05	D, F, G
*ON	OFF	ON	-04	-04	-04	-04	E, L, N
ON	OFF	ON	-03	-03	-03	-03	B, E, G, J, L, N, P
*ON	OFF	ON	-02	-02	-02	-02	E, F, H, K, L, M, N
ON	OFF	ON	-01	-01	-01	-01	A, B, D, E, F, G, H, J, K, L, M, N, P

MIL-S-8834 Miniature Positive Action Switches

SPECIFICATIONS

- Meets MIL-S-8834 requirements
- Sealed bushing
- High electrical/mechanical reliability
- Large and small bushing and lever configurations
- Positive detent action
- Toggle lever throw
  - —Small lever 42° ± 6°
  - —Large lever 28° ± 4°
- Non-teasable mechanism
- Wiping action contacts—dry circuit carrying capabilities
- Positive make and break action
- Solder lug terminals with .045/.050 diameter holes
- Bushing
  - —Small lever 1/4-40 thread
  - —Large lever 15/32-32 thread
- .038 x .072 wide keyway on 8868 and 8869 series

CURRENT RATINGS

Current Capacity in Amperes — Per Pole●							
Resistive Load				Inductive Load			
28V dc	50V dc	115Vac		28V dc	50V dc	115Vac	
		60 Hz	400 Hz			60 Hz	400 Hz
5	1	2	3	1	..	1	2

● Minimum Rating: 25 microamps at 5 millivolts or less.

STANDARD LEVER SELECTION TABLE — SMALL LEVER

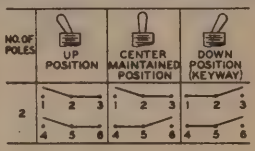
(**Bold** Face Type indicates items normally in Distributor Stock)

Circuit with Lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	MS Part Number	Navy ●	Catalog Number
			ONE POLE		
ON	OFF	ON	MS24655-211	1402.15-1	**8868K1**
ON	NONE	OFF	-221	-2	**K7**
ON	NONE	ON	-231	-3	**K4**
ON	OFF	NONE	-241	-4	**K6**
ON*	OFF	ON*	MS24655-271	1402.15-5	**8868K2**
NONE	OFF	ON*	-281	-6	**K6**
ON	OFF	ON*	-311	-7	**K3**
NONE	ON	ON*	MS21350-321	.....	**K8**
			TWO POLE		
ON	OFF	ON	MS24656-211	1402.16-1	**8867K1**
ON	NONE	OFF	-221	-2	**K7**
ON	NONE	ON	-231	-3	**K4**
ON	OFF	NONE	-241	-4	**K6**
ON*	OFF	ON*	MS24656-271	1402.16-5	**8867K2**
NONE	OFF	ON*	-281	-6	**K6**
ON	OFF	ON*	-311	-7	**K3**
NONE	ON	ON*	MS21352-321	.....	**8867K8**
ON	ON	ON	-331	.....	**K9**
ON	ON	ON*	-351	.....	K10
ON*	ON	ON*	-341	.....	K11

* Momentary contact.

● Part numbers listed in Navy MIL std. 242E. Switches listed in NAV. SHIPS HANDBOOK of miniature parts for electronic equipment — Nav. Ships 0967-031-1000.

"ON-ON-ON" CIRCUIT DIAGRAM



STANDARD LEVER SELECTION TABLE — LARGE LEVER

(**Bold** Face Type indicates items normally in Distributor Stock)

Circuit with Lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	MS Part Number	Catalog Number
		ONE POLE		
ON	OFF	ON	MS90310-211	**8868K1**
ON	NONE	OFF	-221	**K7**
ON	NONE	ON	-231	**K4**
ON	OFF	NONE	-241	**K6**
ON*	OFF	ON*	MS90310-271	**8868K2**
NONE	OFF	ON*	-281	**K6**
ON	OFF	ON*	-311	**K3**
NONE	ON	ON*	MS21351-321	**K8**
		TWO POLE		
ON	OFF	ON	MS90311-211	**8869K1**
ON	NONE	OFF	-221	**K7**
ON	NONE	ON	-231	**K4**
ON	OFF	NONE	-241	**K6**
ON*	OFF	ON*	MS90311-271	**8869K2**
NONE	OFF	ON*	-281	**K6**
ON	OFF	ON*	-311	**K3**
NONE	ON	ON	MS21353-321	**8869K8**
ON	ON	ON	-331	**K9**
ON	ON	ON*	-351	K10
ON*	ON	ON*	-341	K11

* Momentary contact.

OPTIONS

- Special mounting hardware
- Special marking
- Mounting hardware furnished assembled
- Panel seal, Part Number 32-341
- Lever extensions and attachable tips
- Special circuits
- Special bushing and lever plating
- Mounting adapter nuts

SPECIFICATIONS

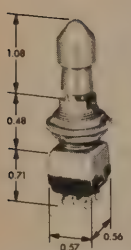
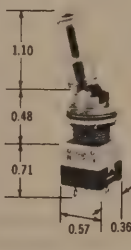
- Meets MIL-S-8834 requirements
- Sealed bushing
- High electrical/mechanical reliability
- Toggle lever throw 26° ± 4°
- Positive detent action
- Non-teasable mechanism
- Positive make and break action
- Wiping action contacts—dry circuit current carrying capabilities
- Solder lug terminals with .045/.050 diameter holes
- 15/32-32 threaded bushing—Keyway .038 x .072 wide
- Choice of two cap styles, standard or mushroom

CURRENT RATINGS

Current Capacity in Amperes — Per Pole[1]							
Resistive Load				Inductive Load			
28V dc	50V dc	115V ac 60 Hz	115V ac 400 Hz	28V dc	50V dc	115V ac 60 Hz	115V ac 400 Hz
5	1	2	3	1	....	1	2

[1] Minimum Rating: 25 microamps at 5 millivolts or less.

LEVER LOCK SELECTION TABLE

Standard Cap Style	Mushroom Cap Style	Circuit with Lever in . . . UP Position	CENTER Position	DOWN Position (Keyway)	Lever Lock Bushing Style[2]	Standard Cap Style MS Part Number	Standard Cap Style Catalog Number	Mushroom Cap Style MS Part Number	Mushroom Cap Style Catalog Number
				ONE POLE					
		ON▶	◀OFF▶	◀ON	1	MS21026-A211	8855K4	MS21436-A211	8855K74
		ON	◀OFF	ON	2	-B211	K5	-B211	K75
		ON	◀OFF	NONE	2	-B241	K19	-B241	K719
		ON	NONE	◀OFF	3	-C221	K13	-C221	K713
		ON	NONE	◀ON	3	-C231	K7	-C231	K77
		ON	◀OFF	ON	4	MS21026-D211	8855K10	MS21436-D211	8855K710
		ON▶	NONE	◀OFF	5	-E221	K14	-E221	K714
		ON▶	NONE	◀ON	5	-E231	K8	-E231	K78
		*ON	◀OFF▶	ON*	14	-F271	K15	-F271	K715
		ON	OFF▶	ON*	15	-G311	K16	-G311	K716
		*ON	◀OFF	ON*	16	MS21026-H271	8855K17	MS21436-H271	8855K717
		ON▶	◀OFF	NONE	11	-J241	K9	-J241	K79
		NONE	OFF▶	ON*	17	-K281	K18	-K281	K718
		ON	◀OFF▶	ON*	17	-K311	K20	-K311	K720
		ON	◀OFF	ON*	18	-L311	K12	-L311	K712
				TWO POLE					
		ON▶	◀OFF▶	◀ON	1	MS21027-A211	8856K4	MS21437-A211	8856K74
		ON	◀OFF▶	ON	2	-B211	K5	-B211	K75
		ON	◀OFF▶	NONE	2	-B241	K19	-B241	K719
		ON	NONE	◀OFF	3	-C221	K13	-C221	K713
		ON	NONE	◀ON	3	-C231	K7	-C231	K77
		ON	◀OFF	ON	4	MS21027-D211	8856K10	MS21437-D211	8856K710
		ON▶	NONE	◀OFF	5	-E221	K14	-E221	K714
		ON▶	NONE	◀ON	5	-E231	K8	-E231	K78
		*ON	◀OFF▶	ON*	14	-F371	K27	-F371	K727
		ON	OFF▶	ON*	15	-G311	K16	-G311	K716
		*ON	◀OFF	ON*	16	MS21027-H371	8856K29	MS21437-H371	8856K729
		ON▶	◀OFF	NONE	11	-J241	K9	-J241	K79
		NONE	OFF▶	ON*	17	-K381	K28	-K381	K728
		ON	◀OFF▶	ON*	17	-K311	K20	-K311	K720
		ON	◀OFF	ON*	18	-L311	K12	-L311	K712
		ON▶	◀ON▶	◀ON	1	MS21027-A331	8856K21	MS21437-A331	8856K721
		ON	◀ON	ON	2	-B331	K30	-B331	K730
		ON	ON	◀ON	3	-C331	K31	-C331	K731
		ON	◀ON	ON	4	-D331	K32	-D331	K732
		*ON	◀ON▶	ON*	14	-F341	K22	-F341	K722
		*ON	◀ON	ON*	16	MS21027-H341	8856K34	MS21437-H341	8856K734
		NONE	ON▶	ON*	17	-K321	K24	-K321	K724
		NONE	ON▶	ON*	15	-G351	K35	-G351	K735
		ON	◀ON▶	ON*	17	-K351	K23	-K351	K723
		ON	◀ON	ON*	18	-L351	K36	-L351	K736

* Momentary Contact.
▶ Indicates direction against which lever is locked.

OPTIONS

- Special mounting hardware
- Special marking
- Mounting hardware furnished assembled
- Special locking configurations
- Bushing seal, Part Number 32-341
- Special circuits
- Special locking cap style

Miniature Switches with Integrated Wire Termination System (IWTS)

SPECIFICATIONS

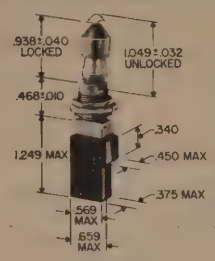
- Meets MIL-S-8834 requirements
- Sealed assembly
- High electrical/mechanical reliability
- Non-teasable mechanism
- Wiping action contacts—dry circuit current carrying capabilities
- Positive make and break action
- Accepts size 20 IWTS pin
- Rigid strain-relief cover
- Available in large and small bushing and lever configuration
- Designed to accept MIL-C-39029/1 pin contacts
- Toggle lever throw—Lever lock 26° ± 4°
  —Standard (large lever) 28° ± 4°
  —Standard (small lever) 42° ± 6°
- Lever lock and standard (large lever) switch—$1\frac{5}{32}$"-32 threaded bushing—Keyway .038 x .072 wide
- Standard (small lever) switch—¼"-40 threaded bushing

OPTIONS

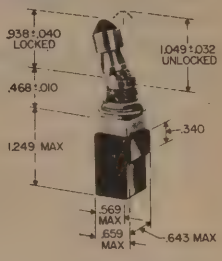
- Special mounting hardware
- Special marking
- Mounting hardware furnished assembled
- Bushing seal, Part Number 32-341

- Special circuits
- Special bushing and lever finish
- Special locking cap style on lever lock switches

LEVER LOCK SELECTION TABLE



One Pole

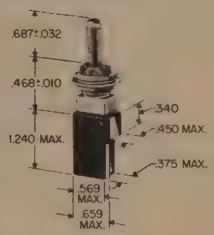


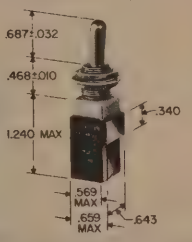
Two Pole

Circuit with Lever in . . .			Lever Lock Bushing Style[1]	Catalog Number	
UP Position	CENTER Position	DOWN Position (Keyway)		One Pole	Two Pole
ON➤	◀OFF➤	◀ON	1	8855K54	8856K54
ON	◀OFF➤	ON	2	K55	K55
ON	◀OFF	NONE	2	K519	K519
ON	NONE	◀OFF	3	K513	K513
ON	NONE	◀ON	3	K57	K57
ON	◀OFF	ON	4	8855K510	8856K510
ON➤	NONE	◀OFF	5	K514	K514
ON➤	NONE	◀ON	5	K58	K58
*ON	◀OFF➤	ON*	14	K515	K515
ON	OFF➤	ON*	15	K516	K516
*ON	◀OFF	ON*	16	8855K517	8856K517
ON➤	◀OFF	NONE	11	K59	K59
NONE	OFF➤	ON*	17	K518	K518
ON	◀OFF➤	ON*	17	K520	K520
ON	◀OFF	ON*	18	K512	K512

* Momentary contact.
➤ Indicates direction against which lever is locked.

STANDARD LEVER SELECTION TABLE





Circuit with Lever in . . .			ONE POLE			TWO POLE		
UP Position	CENTER Position	DOWN Position (Keyway)	MS Part Number	Catalog Number Large Lever	Catalog Number ●●Small Lever	MS Part Number	Catalog Number Large Lever	Catalog Number ●●Small Lever
ON	OFF	ON	MS21346-211	8868K51	8866K51	MS21347-211	8869K51	8867K51
ON	NONE	OFF	-221	K57	K57	-221	K57	K57
ON	NONE	ON	-231	K54	K54	-231	K54	K54
ON	OFF	NONE	-241	K55	K55	-241	K55	K55
*ON	OFF	ON*	MS21346-271	8868K52	8866K52	MS21347-271	8869K52	8867K52
NONE	OFF	ON*	-281	K56	K56	-281	K56	K56
ON	OFF	ON*	-311	K53	K53	-311	K53	K53
NONE	ON	ON*	.....	K58●	K58	.....	8869K58[1]	8867K58[1]
ON	ON	ON	.....	.....	.....	.....	K59[1]	K59[1]
ON	ON	ON*	.....	.....	.....	.....	K510[1]	K510[1]
*ON	ON	ON*	.....	.....	.....	.....	K511[1]	K511[1]

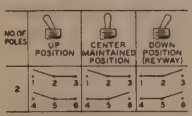
* Momentary contact. ● Dielectric per MIL-S-8834 except limited to 1250 volts. ● Not MS.
[1] Dimensionally identical to illustrations, except lever length is .424 ± .025.

CURRENT RATINGS

Current Capacity in Amperes — Per Pole●						
Resistive Load				Inductive Load		
28 V dc	50 V dc	115 Vac 60 Hz	115 Vac 400 Hz	28 V dc	50 V dc	115 Vac 60 or 400 Hz
4	1	2	3	1	.....	1

● Minimum Rating: 25 microamps at 5 millivolts or less.

"ON-ON-ON" CIRCUIT DIAGRAM



MIL-S-8834 Miniature Positive Action Switches with Printed Circuit Terminals

SPECIFICATIONS

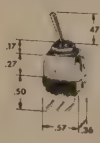
- Meets MIL-S-8834 requirements
- PC termination
- Sealed bushing
- High electrical/mechanical reliability
- Toggle lever throw — Small lever 42° ± 8°
  — Large lever 28° ± 4°
- Positive detent action
- Non-teasable mechanism
- Wiping action contact — dry circuit current carrying capabilities
- Positive make and break action
- Bushing — Small lever ¼ - 40 Thread
  — Large lever 15/32 - 32 Thread
- .038 x .072 wide keyway on 8868 and 8869 series
- Support bracket supplied assembled on right angle mount, P.C. switches

CURRENT RATINGS

Current Capacity in Amperes — Per Pole❶							
Resistive Load				Inductive Load			
28V dc	50V dc	115Vac 60 Hz	115Vac 400 Hz	28V dc	50V dc	115Vac 60 Hz	115Vac 400 Hz
5	1	2	3	1	....	1	2

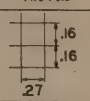
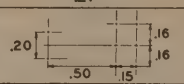
❶ Minimum Rating: 25 microamps at 5 millivolts or less.

SELECTION TABLE

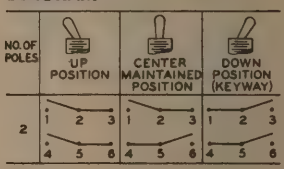
Small Lever With Straight Mount P.C. Terminals	Small Lever With Right Angle Mount P.C. Terminals	Large Lever With Straight Mount P.C. Terminals	Circuit with Lever in . . .			SMALL LEVER				LARGE LEVER	
						Straight Mount		Right Angle Mount		Straight Mount	
			UP Position	CENTER Position	DOWN Position (Keyway)	MS Part Number	Catalog Number	MS Part Number	Catalog Number	MS Part Number	Catalog Number
			ONE POLE								
			ON	OFF	ON	MS21354-211	8866K61	MS21433-211	8866KA61	MS21356-211	8868K61
			ON	NONE	OFF	-221	K67	-221	KA67	-221	K67
			ON	NONE	ON	-231	K64	-231	KA64	-231	K64
			ON	OFF	NONE	-241	K65	-241	KA65	-241	K65
			ON*	OFF	ON*	MS21354-271	8866K62	MS21433-271	8866KA62	MS21356-271	8868K62
			NONE	OFF	ON*	-281	K66	-281	KA66	-281	K66
			ON	OFF	ON*	-311	K63	-311	KA63	-311	K63
			NONE	ON	ON*	.....	K68	-321	KA68	.....	K68
			TWO POLE								
			ON	OFF	ON	MS21355-211	8867K61	MS21434-211	8867KA61	MS21357-211	8869K61
			ON	NONE	OFF	-221	K67	-221	KA67	-221	K67
			ON	NONE	ON	-231	K64	-231	KA64	-231	K64
			ON	OFF	NONE	-241	K65	-241	KA65	-241	K65
			ON*	OFF	ON*	MS21355-271	8867K62	MS21434-271	8867KA62	MS21357-271	8869K62
			NONE	OFF	ON*	-281	K66	-281	KA66	-281	K66
			ON	OFF	ON*	-311	K63	-311	KA63	-311	K63
			NONE	ON	ON*	.....	8867K68	MS21434-321	8867KA68	.....	8869K68
			ON	ON	ON	.....	K69	-331	KA69	.....	K69
			ON	ON	ON*	.....	K610	-351	KA610	.....	K610
			ON*	ON	ON*	.....	K611	-341	KA611	.....	K611

* Momentary contact.

DIMENSIONS FOR P.C. BOARD HOLE SPACINGS

Type	One Pole	Two Pole
Straight Mount Recommended Mtg. Hole — 0.070" Dia.		
Right Angle Mount Recommended Mtg. Hole — 0.060" Dia.		

"ON-ON-ON" CIRCUIT DIAGRAM



OPTIONS

- Special mounting hardware
- Special marking
- Mounting hardware furnished assembled
- Bushing seal, Part Number 32-341
- Special circuits
- Special bushing and lever plating
- Mounting adapter nut

CAUTION — MANUAL SWITCHES ARE AFFECTED BY HEAT, CLEANING SOLVENTS AND FLUX. EXTREME CARE SHOULD BE EXERCISED DURING HAND SOLDERING AND WAVE SOLDERING TO PREVENT SWITCH CONTAMINATION.

Sub-Miniature Pushbutton Switches

WHEN ORDERING SPECIFY

- Catalog Number of Switch followed by Suffixes for Options — EXAMPLE: **B9001CB.**

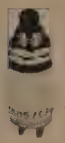
SPECIFICATIONS

- Snap action
- MIL approved
- Sealed (Moistureproof) or Non-Sealed
- Low operating force
- All parts corrosion resistant
- Solder lug terminals

CURRENT RATINGS

Type	28Vdc		120Vac 60 or 400 Hz		Elect. Life Minimum
	Resis. Load	Induc. Load	Resis. Load	Induc. Load	
Single Pole	7 5	4 2	7 5	4 (0.75 PF) 2 (0.75 PF)	10,000 25,000
Two Pole	1	1	1	1 (0.75 PF)	10,000

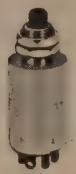
SELECTION TABLE — Incomplete Catalog Nos. See Ordering Instructions (**Bold** Face Type indicates items normally in Distributor Stock)



Single Pole
1/4-40 Bushing



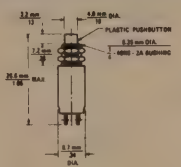
Single Pole
Decorative
Panel Flange



Two Pole
1/4-40 Bushing

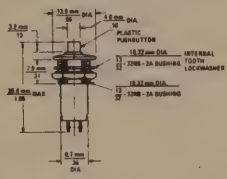
Type	Circuit	Switch — Catalog No.		Option — Suffix	
		Non-Sealed	Sealed	Case	Buttons
Single Pole 1/4-40 Bushing	1 P.-NO 1 P.-NC	**B9001** **B9002**	**BW9001** **BW9002**	B = Black or C = Clear	B = Black or R = Red
Single Pole Decorative Panel Flange	1 P.-NO 1 P.-NC	**B9021** **B9022**	**BW9021** **BW9022**		
Two Pole 1/4-40 Bushing	2 P.D.T.	**B7070**	----		No Suffix = Black or R = Red

APPROXIMATE DIMENSIONS



Single Pole
1/4-40 Bushing

Two Pole
1/4-40 Bushing



Single Pole Decorative Panel Flange

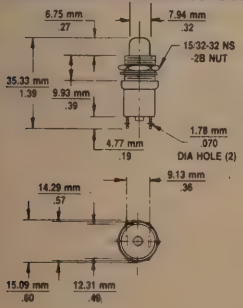
Miniature Pushbutton Switches—Round Base



SPECIFICATIONS

- Contact ratings—8 amperes at 125 Vac resistive
  —3 amperes at 28Vdc resistive
- Momentary snap action mechanism
- Total plunger travel approximately 5/64 inches
- Operating force 1½ ± ½ pound
- Mechanical life—25000 operations minimum
- Solder lug terminals
- Black pushbutton supplied as standard
- U.L. listed

APPROXIMATE DIMENSIONS



SELECTION TABLE

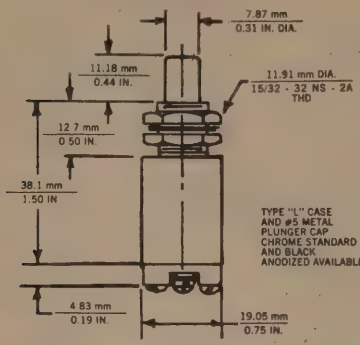
Operation	Circuit	Poles and Throw	❷ Base Catalog Number	Suffix letter for P.B. Color Add to Base Catalog Number	
				Color	Code Suffix
ONE POLE					
Momentary Momentary	N.O. N.C.	1 P.S.T. 1 P.S.T.	B2001 B2002	Black Red	❶ R

❶ No suffix required for black button which is standard.

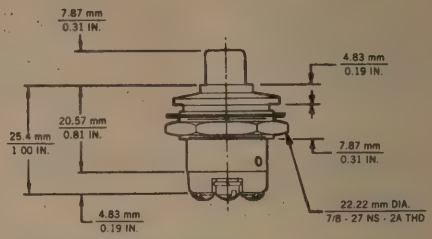
❷ If U.L. listing is required, add -**HR** to end of Catalog Number — EXAMPLE: **B2001R-HR.**

Momentary Action Pushbutton Switches — D200 and H2200 Series Switches

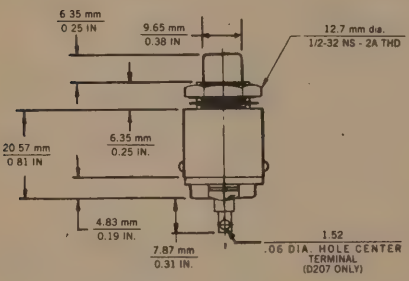
APPROXIMATE DIMENSIONS



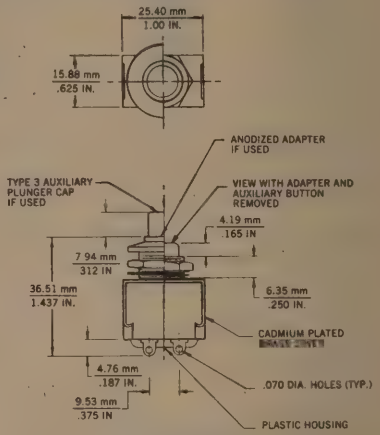
D200 Series with type "L" case



D200 Series with type "P" case



D200 Series with type "W" case



H2200 Series

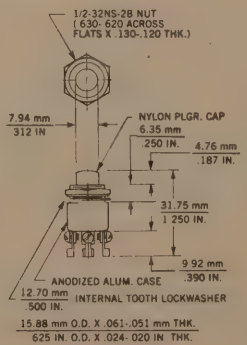
MS16712 Momentary Snap Action Pushbutton Switch

SPECIFICATIONS

- MIL-S-8805/20
- Electrical Ratings:
  120Vac — 15 Amps. inductive at 0.5 power factor
  120Vdc — 1 Amp. inductive at 0.07 henry
  230Vdc — 0.05 Amp. inductive at 2 henries
- Mechanical Life: 50,000 operations min.
- Electrical Life:
  120Vac or dc — 40,000 operations min.
  230Vdc — 5,000 operations min.
- Total Plunger Travel: 0.085 in. (2.159 mm) approx.
- Operating Force: 2.5-4.5 lbs. (1.125 kg-2.025 kg)
- Weight: 0.02 lb. (9g) approx.
- Clear anodized aluminum case
- Black pushbutton plunger

APPROXIMATE DIMENSIONS





SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Circuit	Operation	Case Color	Button Color	Catalog Number
1P.D.T. — 2 Ckt.	Momentary	Clear	Black	**C20050**

Alternate Action Pushbutton Switches — J4004 Series — Push-Push

SPECIFICATIONS

- Exclusive alternate snap action mechanism
- Mechanical Life: 50,000 operations min.
- Total Plunger Travel: 0.172 in. (4.37 mm) approx.
- Operating Force: 2.75 ± 0.75 lb. (1.24 kg ± 0.34 kg)
- Weight: 0.032 lb. (15 g)
- Terminals: Solder lug
- Case: Anodized aluminum
- Pushbutton: Black plastic (standard)



WHEN ORDERING SPECIFY

Catalog Number of base switch followed by suffix letters for color of case and pushbutton.
Ordering Example:

J4004	B	R	=	J4004BR
Base Cat. Number	Case Color	Pushbutton Color		Complete Number

SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Series And Type	Operation	Nominal Ratings Amperes 28Vdc	Nominal Ratings Amperes 125Vac	Circuit	Base Catalog Number	Case Color		Pushbutton Color	
						Color	Code Suffix	Color	Code Suffix
J4004 SERIES	Alternate (Push-Push)	10A Res 5A Ind.	10A Res. 5A Ind (.75 PF)	1P.D.T. 2Ckt.	J4004	Black Gold Clear	B GO None Reqd	Gray White Red Black	GY W R None Reqd.

Hi Current Pushbutton Switches — J100 Series — Push-Push

SPECIFICATIONS

- Rated up to 40 amperes ac and dc
- Total Plunger Travel: 1/4 in. approx.
- Operating Force: 4 ± 2 lbs. (1.8 kg ± 0.9 kg)
- Mounting: Nut, washer and locking ring supplied unassembled
- Cylindrical design reduces size 25%



SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Series and Type	Operation	Nominal Rating Amperes 28Vdc	Nominal Rating Amperes 125Vac	Circuit	Catalog Number
J100 SERIES	Alternate (Push-Push)	40A Continuous 5A Lamp Load 15A Ind	40A Continuous 3A Lamp Load 10A Ind	1P.S.T.-NO 1P.D.T.-ON-ON	J100 J103

J6500 — Alternate Action Series

(Front of Panel Installation and Removal)

SPECIFICATIONS

- Circuit: Single pole — Single throw
- Action: Push to make-Push to break
- Operating Force: 16 ± 4 oz. (7.2 Kg ± 1.8 Kg)
- Pretravel: 0.125 min. (3.18 mm)
- Total Travel: 0.20 max. (5.08 mm)
- Weight: 0.06 lbs. (27.2 g) max.
- Life: 50,000 operation min.
- Electrical Ratings: Lamp load 28Vdc — 1.4A
  Resistive 28Vdc — -2.5A
  Inductive 28Vdc — 2.5A
  Dielectric strength — 1500 VRMS for 60 sec.

SELECTION TABLE

 Switch Only	 Mounting Hardware Only	 Switch Assembled With Mounting Hardware
Catalog Number J6500-1	Catalog Number J6500-2	Catalog Number J6500

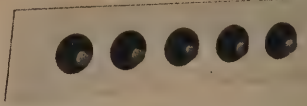
UPA (Uniform Panel Appearance) Pushbutton Switches

WHEN ORDERING SPECIFY

- Catalog Number of Base Switch followed by Suffix Numbers of Options (when required) as selected from Selection Table.

Ordering Examples:

Base Switch Catalog No.	Mtg. Adapter and Color	Button Style and Color	Complete Number
C140	HA	6	C140HA6
C141	(Not Req'd)	7R	C1417R



CURRENT RATINGS

Series Number	28Vdc Lamp Load	28Vdc Resistive Load	28Vdc Inductive Load	120Vac 60 or 400 Hz Lamp Load	120Vac 60 or 400 Hz Resistive Load	120Vac 60 or 400 Hz Inductive Load
C100	3	❶10	5	—	❶10	15
W100	3	❷10	5	—	❷10	15
WC1500	—	—	2	—	—	—
J300 (SPDT)	1	10	3	1	10	5
J300 (DPDT)	1	1	—	1	1	—

❶ 3A maximum thru center terminal of A800 and A11200.
❷ 3A maximum thru center terminal of W104 and W105.

SPECIFICATIONS

- Uniform Panel Appearance
- Exclusive snap-action
- Low operating force
- Sealed (moistureproof) or non-sealed
- Optional accessories available: Pushbutton boots and guards Engraved buttons and flanges
- EMI/RFI versions available
- Electrical life (minimum operations)
  B5200 — 100,000 at rated loads
  — 200,000 at 40 mA, 28Vdc
  Others — 25,000 at rated loads

SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

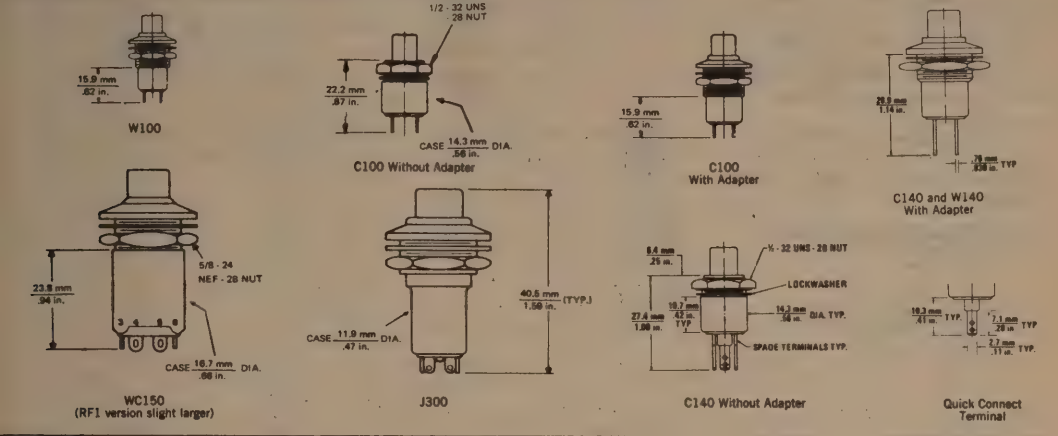
Series Number	Circuit	Base Switch — Catalog Number: Solder Lug Terminals: Non-Sealed	Solder Lug Terminals: Sealed: Normal Force	Solder Lug Terminals: Sealed: Light Op. Force (2 ± 1 lb.)	Quick Connect Terminals: Non-Sealed	Quick Connect Terminals: Sealed	Solder Terminals: R.F.I. Shielded	MS Type	Options — Suffix Number: ❸Mounting Adapters: Type	Mounting Adapters: Color	❹Auxiliary Buttons: Style	Auxiliary Buttons: Color
 C100	SP-NO	**C100**	—	**C111**	C140	—	—	—	HA, M, N, P, PA, W, Y and a Type L with #5 Button Only	B = Black R = Red No Alpha = Clear	2, 6 or 7 On Switch without Adapter 2, 3, 4 or 7 On Switches with Adapter	No Alpha = Black
	SP-NC	**C3100**	—	**C112**	C141	—	—	—				
	1 P.D.T. 2 Ckt	**C200**	—	**C113**	C142	—	—	—				
	SP-NO 3 Term.	**A800**	—	**C114**	—	—	—	—				
	SP-NC 3 Term.	**A11200**	—	**C115**	—	—	—	—				
	1 P.D.T. Dbl. Brk.	**C4100**	—	**C116**	—	—	—	—				
 ❸W100	SP-NO	—	**W101**	**W111**	—	W140	—	**W191**			2, 3, 4, 6 or 7	
	SP-NC	—	**W102**	**W112**	—	W141	—	**W192**				
	1 P.D.T. 2 Ckt.	—	**W103**	**W113**	—	W142	—	**W193**				
	SP-NO 3 Term.	—	**W104**	**W114**	—	—	—	**W194**				
	SP-NC 3 Term.	—	**W105**	**W115**	—	—	—	**W195**				
	1 P.D.T. Dbl. Brk.	—	**W106**	**W116**	—	—	—	—				
	1 P.D.T. 2 Ckt.	—	—	—	—	—	**W403P6❹**	—			6	
 WC150	2 P.D.T. 4 Ckt. (May be Jumpered for 2 P.D.T.)	—	**WC150**	**WC150-02**	—	—	—	—			2, 3, 4, 6 or 7	
							W1501❹	—			6	
 ❸J300	1 P.D.T. Push-Push 2 Ckt	—	**J313**	—	—	—	—	—	HA, M, N, P, PA, W or Y		6	
	2 P.D.T. Push-Push Single Brk.	—	**J333**	—	—	—	—	—				
	Push-Push	—	—	—	—	—	**J334P6❹**	—			6	

❶ For Type illustration, see dimensions table with sketches 50.
❷ For Style illustrations, see dimensions
❸ Not available without mounting adapters.
❹ Supplied with mounting adapter.

UPA (Uniform Panel Appearance)

Pushbutton Switches

APPROXIMATE DIMENSIONS — PUSHBUTTON SWITCHES

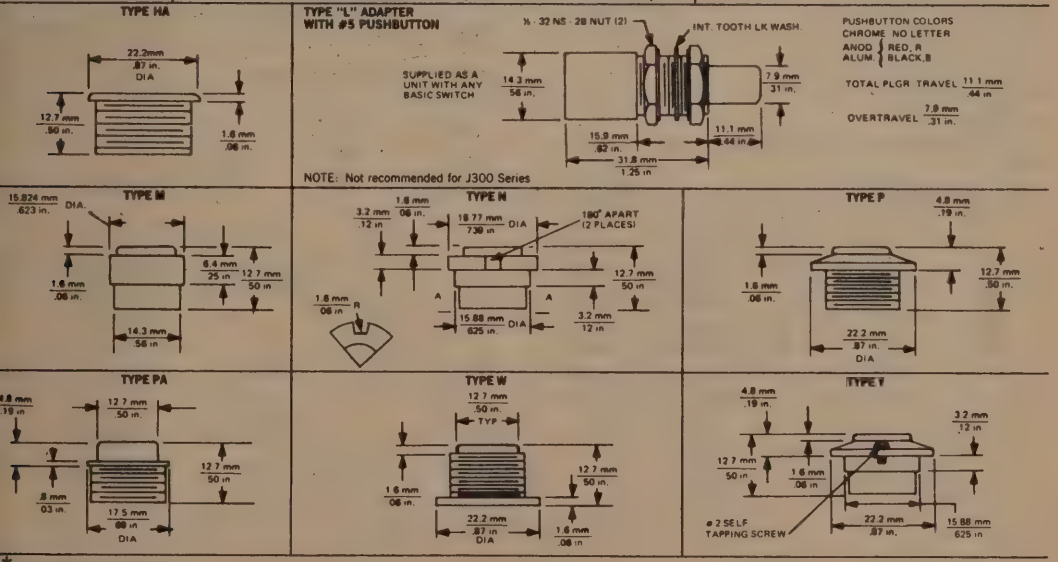


APPROXIMATE DIMENSIONS — AUXILIARY BUTTONS

Series Number	Style No. 2 A mm.	Style No. 2 A in.	Style No. 2 B mm.	Style No. 2 B in.	Style No. 3 A mm.	Style No. 3 A in.	Style No. 3 B mm.	Style No. 3 B in.	Style No. 4 A mm.	Style No. 4 A in.	Style No. 4 B mm.	Style No. 4 B in.	Style No. 6 A mm.	Style No. 6 A in.	Style No. 6 B mm.	Style No. 6 B in.	Style No. 7 A mm.	Style No. 7 A in.	Style No. 7 B mm.	Style No. 7 B in.
Series C100 w/o Mtg. Adapter	7.9	.31	7.9	.31	—	—	—	—	—	—	—	—	7.9	.31	4.8	.19	7.9	.31	11.9	.47
with Mtg. Adapter	9.5	.37	7.9	.31	9.5	.37	7.9	.31	9.5	.37	4.8	.19	—	—	—	—	7.9	.31	5.6	.22
Series W100 & WC150	9.5	.37	7.9	.31	9.5	.37	7.9	.31	9.5	.37	4.8	.19	9.5	.37	6.4	.25	9.5	.37	9.5	.37
Series J300	—	—	—	—	—	—	—	—	—	—	—	—	9.5	.37	6.4	.25	—	—	—	—

APPROXIMATE DIMENSIONS — MOUNTING ADAPTERS (other configurations available on request)

Anodized aluminum alloy. All threads are 1/2-32 NS-2B internal; 5/8-24 NEF-2A external, except as noted.



* Not available on J300 Series.

Illuminated Switches — A84100 Series M22885/8-01 Momentary Snap Action — A84200 Series M22885/8-02 Push-Pull Action

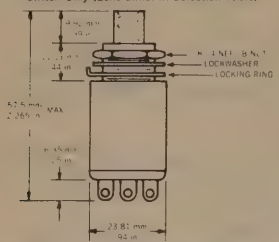
SPECIFICATIONS

- Circuit: 2 Circuit or SPDT
- Electrical Ratings:
  Resistive — 5A, 28Vdc or 115Vac or 115Vac
  Inductive — 3A, 28 Vdc or 115Vac
- Total Plunger Travel: 0.08 ± 0.02 in.
- Operating Force:
  Momentary circuit — 4 ± 1 lb.
  Push-Pull circuit — 1-1/2 ± 1 lb.
- All switches designed to used MS25237 type lamps

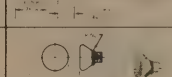
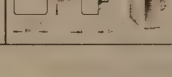


APPROXIMATE DIMENSIONS

Switch Only (Lens dims. in Selection Table)



SELECTION TABLE — Complete Switch and Lens (Unassembled)

Style	Lens Style and Color: Dimensions	Color	Momentary Circuit: Military Part Number	Momentary Circuit: Catalog Number	Push-Pull Circuit: Military Part Number	Push-Pull Circuit: Catalog Number
	Switch Only (No Lens)		M232885/8-01	A84100	M22885/8-02	A84200
A		Yellow	M22885/8-03	A84111-AC	M22885/8-28	A84211-AC
		White	M22885/8-04	A84112-AC	M22885/8-29	A84212-AC
		Red	M22885/8-05	A84113-AC	M22885/8-30	A84213-AC
		Green	M22885/8-06	A84114-AC	M22885/8-31	A84214-AC
		Blue	M22885/8-07	A84116-AC	M22885/8-32	A84216-AC
B		Yellow	M22885/8-08	A84131-AC	M22885/8-33	A84231-AC
		White	M22885/8-09	A84132-AC	M22885/8-34	A84232-AC
		Red	M22885/8-10	A84133-AC	M22885/8-35	A84233-AC
		Green	M22885/8-11	A84134-AC	M22885/8-36	A84234-AC
		Blue	M22885/8-12	A84136-AC	M22885/8-37	A84236-AC
C		Yellow	M22885/8-13	A84141-AC	M22885/8-38	A84241-AC
		White	M22885/8-14	A84142-AC	M22885/8-39	A84242-AC
		Red	M22885/8-15	A84143-AC	M22885/8-40	A84243-AC
		Green	M22885/8-16	A84144-AC	M22885/8-41	A84244-AC
		Blue	M22885/8-17	A84146-AC	M22885/8-42	A84246-AC
D		Yellow	M22885/8-18	A84151-AC	M22885/8-43	A84251-AC
		White	M22885/8-19	A84152-AC	M22885/8-44	A84252-AC
		Red	M22885/8-20	A84153-AC	M22885/8-45	A84253-AC
		Green	M22885/8-21	A84154-AC	M22885/8-46	A84254-AC
		Blue	M22885/8-22	A84156-AC	M22885/8-47	A84256-AC
E		Yellow	M22885/8-23	A84161-AC	M22885/8-48	A84261-AC
		White	M22885/8-24	A84162-AC	M22885/8-49	A84262-AC
		Red	M22885/8-25	A84163-AC	M22885/8-50	A84263-AC
		Green	M22885/8-26	A84164-AC	M22885/8-51	A84264-AC
		Blue	M22885/8-27	A84166-AC	M22885/8-52	A84266-AC

SELECTION TABLE — Lens Only (**Bold** Face Type indicates items normally in Distributor Stock)

Color	M22885/1 Style A: Military Part No.	M22885/1 Style A: Catalog Number	M22885/1 Style B: Military Part No.	M22885/1 Style B: Catalog Number	M22885/1 Style C: Military Part No.	M22885/1 Style C: Catalog Number	M22885/1 Style D: Military Part No.	M22885/1 Style D: Catalog Number	M22885/1 Style E: Military Part No.	M22885/1 Style E: Catalog Number
Yellow	M22885/1-01	**P811**	M22885/1-06	**P831**	M22885/1-11	**P841**	M22885/1-16	**P851**	M22885/1-21	**P861**
White	M22885/1-02	**P812**	M22885/1-07	**P832**	M22885/1-12	**P842**	M22885/1-17	**P852**	M22885/1-22	**P862**
Red	M22885/1-03	**P813**	M22885/1-08	**P833**	M22885/1-13	**P843**	M22885/1-18	**P853**	M22885/1-23	**P863**
Green	M22885/1-04	**P814**	M22885/1-09	**P834**	M22885/1-14	**P844**	M22885/1-19	**P854**	M22885/1-24	**P864**
Blue	M22885/1-05	**P816**	M22885/1-10	**P836**	M22885/1-15	**P846**	M22885/1-20	**P856**	M22885/1-25	**P866**

Illuminated Pushbutton Switches — A and J 20000 Series

SPECIFICATIONS

- Meets M22885/18 requirements
- Moisture resistant
- Flame retardant back material
- Rugged anodized aluminum case
- Low operating force
- Independent lamp circuit
- Use either M22885/19 screw type or M22885/1screw or snap-in type lenses

SELECTION TABLE — MIL Specification No. MIL-S-22885



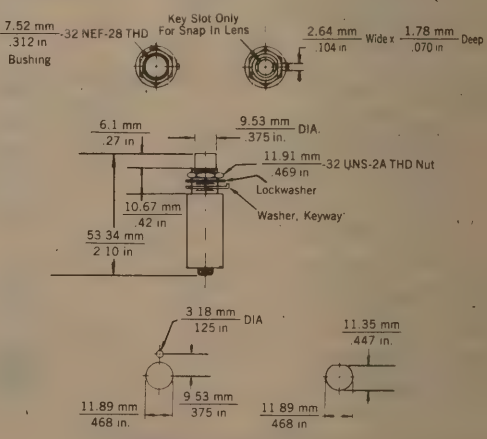
Circuit	Lens Type	Detail Spec. Sheet	Catalog Number
ALTERNATE ACTION			
2 P.D.T. 2 Circuit	Screw-in	M22885/18-02 -04	J20145 49
2 P.D.T. 2 Circuit	Snap-in	M22885/18-06 -08	J20152 53
MOMENTARY ACTION			
2 P.D.T. 2 Circuit	Screw-in	M22885/18-01 -03	A20267 71
2 P.D.T. 2 Circuit	Snap-in	M22885/18-05 -07	A20272 73

CURRENT RATINGS

28Vdc and 115Vac 60 or 400 Hz

Resistive Load 2A — Inductive Load 1.5A — Lamp Load 0.5A

APPROXIMATE DIMENSIONS



RECOMMENDED PANEL MOUNTING HOLE DIMS

H11 SERIES

SPECIFICATIONS

- MIL-S-8805 approved switches
- All components MIL. quality
- All styles available with Glass-to-Metal Seal or Phenolic disc header
- Temperature range, −65°F to +185°F
- Electrical life — 25,000 at rated load
- Mechanical life — 100,000 operations min.
- 200 standard variations available
- Consult factory for specials

CURRENT RATINGS

	Amperes — 28Vdc			
	Inrush	Motor	Res	Ind.
Sea Level	24	4	7	4
50,000 Feet	24	4	7	2.5
100,000 Feet	24	4	7	1.5

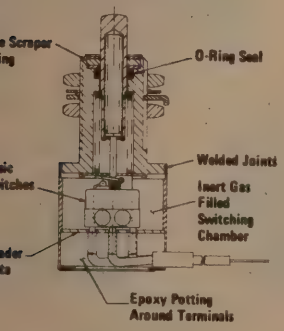
All switches are designed for operation at these ratings. See applicable MS sheet for lower ratings per specification requirements.

SELECTION TABLE — All Switches Shown Have 6 Foot Lengths of No. 20 Lead Wire Per MIL-W-22759/7 Marked Per MIL-W-5088 (**Bold** Face Type indicates items normally in Distributor Stock)

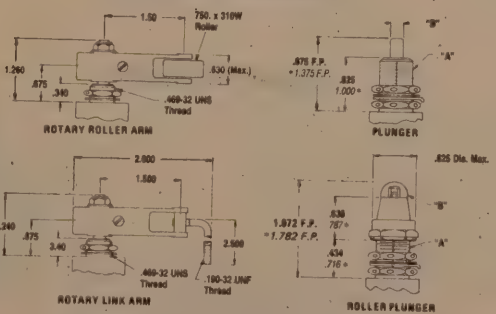


Poles and Throw	Actuator	Characteristics: Op. Force	Return Force	Pre-Travel	Over-Travel	Diff. Travel	MS Part Number	Catalog Number	Weight (oz.)	Bushing Thread Size "A" Dim.	Actuator Diameter Size "B" Dim.	Maximum Housing Dimensions In Inches: Height	Diameter
2 P.D.T.	Rotary Roller Arm	12-25 in. lb. max.	9 in. lb. min.	13°	32°	4° max.	**MS21320-1**	H11-372 (CW oper) H11-373 (CCW oper)	9.5 max.	.469-32	See Below	2.16	1.03
2 P.D.T.	Plunger	6-12 lbs.	4 lbs. min.	.040 in. max.	.250 in. min	.020 in. max	**MS21321-1** (8805/39)	**H11-335**	7.2	625-24	.260	.98[illegible]	.720
4 P.D.T.	Plunger	6-12 lbs.	4 lbs. min.	.040 in. max.	.250 in. min.	020 in. max.	**MS21321-2** (8805/39)	**H11-395**	12.5	.625-24	.260	1.20	1.0
2 P.D.T.	Plunger	6-12 lbs.	4 lbs. min.	.070 in. max.	.250 in. min.	020 in. max.	**MS24331-1** (8805/40)	**H11-375**	7.3 max.	.625-24	.260	.980	1.015
2 P.D.T.	Rotary Link Arm	3 in. lb. max	—	—	—	12° max.	**MS24420-1**	H11-374	7.5 max.	.469-32	See Below	1 0	1.015
2 P D T.	Plunger	6-12 lbs.	4 lbs. min.	.040 in. max	.125 in. min.	.020 in. max	**MS27240-1** (8805/43)	**H11-330**	5.2	469-32	.250	1.[illegible]	.720
4 P D T	Plunger	6-12 lbs.	4 lbs. min.	.040 in. max.	125 in. min.	.020 in. max	**MS27240-2** (8805/43)	**H11-390**	12.5	469-32	.250	1.20	1 03
2 P.D.T.	Roller Plunger	6-12 lbs.	4 lbs. min	040 in. max.	125 in. min	.020 in. max	**MS27240-3** (8805/43)	**H11-331**	7 2	469-32	.37[illegible]	1.0	.720
4 P.D.T	Roller Plunger	6-12 lbs.	4 lbs. min.	.040 in. max.	.125 in. min	.020 in. max	**MS27240-4** (8805/43)	**H11-391**	12.5	.469-32	.375	1.[illegible]0	1.03
2 P.D T	Rotary Link Arm	3 in. lb. max	—	—	—	12° max.	**MS27259-1**	H11-334	9.0	469-32	See Below	1.03	695
4 P.D T	Rotary Link Arm	3 in. lb. max	—	—	—	12° max.	**MS27259-2**	H11-394	12.0	.469-32	See Below	1.1[illegible]7	1.03

BASIC CONSTRUCTION

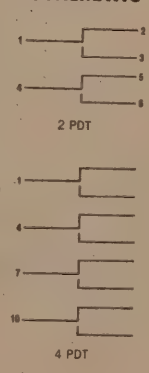


APPROXIMATE DIMENSIONS



* Dimension in Italic indicates alternate version available.

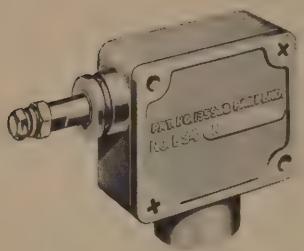
SCHEMATIC



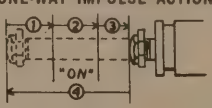
LIMIT SWITCHES INDUSTRIAL SERIES ES4

SPECIFICATIONS

- Rugged, plunger type spring return switches specifically designed for industrial service
- Standard SPDT, two circuit and optional one-way impulse action
- Three different plunger options
- All metals are corrosion protected
- Electrical rating — 10 amps. 125/250Vac or 30Vdc
- Pretravel — .050" + .020" – .010"
- Weight — 4¾ ounces max.
- Minimum mechanical and electrical life — 500,000 cycles
- Mounting — two #8 screws through case, ½x14 pipe tap conduit
- Case — die cast aluminum with silver hammer finish
- Wiring — Removable cover provides access to terminals. Terminals equipped with 4-40 screws for wires up to #18 AWG



EXCLUSIVE ACTUATOR GIVES ONE-WAY IMPULSE ACTION



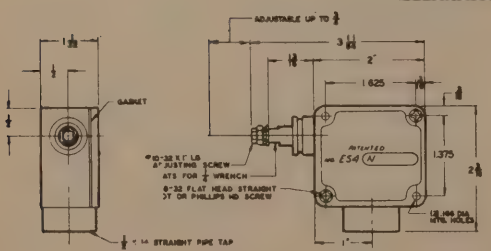
1. (Pretravel) Contacts stay normal while plunger is pushed in this first interval.
2. (Switching Period) Contacts transfer as plunger is pushed through position 2.
3. (Overtravel) Contacts return to normal position and remain so for remainder of plunger inward travel.
4. (Release) Switch is not tripped on plunger return. Contacts remain in normal position.

SELECTION TABLE

Catalog Number	Plunger	Differential (inches)	Operate Force (lbs.)	Overtravel Force (lbs.)	Overtravel (inches, min.)	"On" Period (inches of plunger travel)
STANDARD ACTION						
ES4-N	Standard	.022 ± .010	3 ± 1	3 ± 1	3/16	—
ES4-J	Pushbutton	.022 ± .010	3 ± 1	3 ± 1	3/16	—
ES4-K	Neoprene Boot	.022 ± .010	3.5 ± 1	6 ± 1	7/16	—
ES4-JM3	Neoprene Boot	.022 ± .010	3.5 ± 1	6 ± 1	1/8	3/16

Catalog Number	Plunger	Differential (inches)	Operate Force (lbs.)	Overtravel Force (lbs.)	Overtravel (inches, min.)	"On" Period (inches of plunger travel)
ONE-WAY IMPULSE ACTION						
ES4-NM2	Standard	—	3 ± 1	3 ± 1	3/16	1/8
ES4-NM4	Standard	—	3 ± 1	3 ± 1	1/16	1/4
ES4-JM2	Pushbutton	—	3 ± 1	3 ± 1	3/16	1/8
ES4-KM2	Neoprene Boot	—	3.5 ± 1	5 ± 1	3/16	1/8
ES4-KM4	Neoprene Boot	—	3.5 ± 1	5 ±	3/16	1/4
ES4-KM6	Neoprene Boot	—	3.5 ± 1	5 ± 1	7/16	3/8

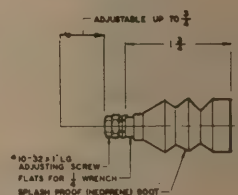
CLEARANCE DIMENSIONS



"-N" type



"-J" type



"-K" type

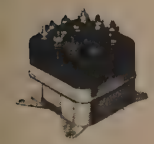
Hermetically Sealed Power Relays

SPECIFICATIONS

- Meet MIL-R-6106 requirements
- All moving parts, contacts and magnet coil are hermetically sealed
- Operable at altitudes to 80,000 feet
- Impact shock—25 G's (50 G's for 6042H91-H94, H171, H181-H182 and H201-H202)
- Acceleration—15 G's
- Furnished with terminal hardware
- Vibration ranging from 10 to 1500 hertz
- Ambient temperature—
  - Class A . . . . . —55°C to +71°C
  - Class B . . . . . —70°C to +120°C
  - Catalog No. 6042H93-H94 . . . . . —70°C to +85°C
- Twin break special composition (silver) contacts


Cat. No. 6042H91


Cat. No. 6042H142


Cat. No. 6042H202


Cat. No. 6042H155


Cat. No. 6042H181


Cat. No. 6042H160


Cat. No. 6042H151


Cat. No. 6042H152


Cat. No. 6042H153

SELECTION TABLE (**Bold** Face Type indicates items normally in Distributor Stock)

Continuous Ampere Contact Rating	Poles and Throw	Operating Coil Voltage	No. of Aux. Contacts N.O.-N.C. 2 Circ.	Dimension Drawing Figure Number	Wiring Diagram Figure Number	Government Type Number	Class	Catalog Number
12	3 P.S.T.	28V dc	1	2	8	MS21330-D2	B	6042H110❶
25	3 P.S.T.	28V dc	...	5	6	MS27997-D1	B●	**6042H91**
			1	5	7	MS27997-D2	B●	**H92**
			...	2	6	MS24143-D1	B	**H141**
			1	2	8	MS24143-D2	B	**H142**
		Rectifiers For 115V 60 or 400 Hertz	...	5	6	.....	B●	6042H93
			1	5	7	.....	B●	H94
			...	2	6	MS24143-A1	A-B●	**H143**
			1	2	8	MS24143-A2	A-B●	**H144**
	3 P.D.T.	28V dc	...	3	3	.....	B●	6042H33
50	1 P.S.T.	28V dc	...	1	9	MS24140-D1	B	**H165**
			1	1	10	MS24140-D2	B	**H166**
		Rectifiers For 115V 60 or 400 Hertz	...	1	9	.....	A-B●	6042H45
			1	1	10	.....	A-B●	H46
	3 P.S.T.	28V dc	...	5	6	MS27222-1	B●	**6042H281**
			1	5	7	MS27222-2	B●	**H282**
			...	2	6	MS24376-D1	B	**H145**
			1	2	8	MS24376-D2	B	**H146**
		Rectifiers For 115V 60 or 400 Hertz	...	2	6	MS24376-A1	A-B●	**H147**
			1	2	8	MS24376-A2	A-B●	**H148**
		120V dc	1	2	2	.....	B	6042H61
	3 P.D.T.	28V dc	1	3	4	.....	B●	6042H28
100	1 P.S.T.	28V dc	...	5	12	MS27242-1	B●	6042H181
			1	5	10	MS27242-2	B●	**H182**
			...	1	9	MS24182-D1	A	**6042H186**
			...	1	9	MS24141-D1	B	**H159**
			1	1	10	MS24141-D2	B	H160
	3 P.S.T.	28V dc	...	2	6	MS24168-D1	B	**H161**
			1	2	8	MS24168-D2	B	**H162**
		Rectifiers For 115V 60 or 400 Hertz	...	2	1	.....	A-B●	6042H51
			1	2	2	.....	A-B●	H52
		120V dc	1	2	2	.....	B	6042H63
200	1 P.S.T.	28V dc	...	1	9	MS24183-D1	A	**6042H167**
			...	1	9	MS24142-D1	B	**H151**
			1	1	10	MS24142-D2	B	**H152**
300	1 P.S.T.	28V dc	...	1	9	MS24184-D1	A	**6042H153**

❶ Rated electrical life — 200,000 operations minimum.
● Rated 50 G's impact shock.
● Positive mechanical interlock between contacts.
● 60 hertz Class A, 400 hertz Class B.

Hermetically Sealed Power Relay

ENGINEERING DATA

Catalog Number	Continuous Ampere Contact Rating	Poles and Throw	No. of Aux. Contacts N.O.-N.C. 2 Circ.	Class	Power Contact Ratings — Continuous Duty❶							Aux. Contact Ratings (Amps)		Coil Data					
					28V dc (Amperes)			400 Hertz ac				Resistive and Inductive 28V dc 115V ac, 400 Hz.	Lamp 28V dc 115V ac, 400 Hz.	Resistance (Ohms) ±15% −10%	Max. Coil Power Req'd.			Max. Volts Pick-up at Amb. Temp.	Volts Drop-Out	
									Amperes						Amperes				
					Resistive	Inductive	Motor	Volts	Res.	Ind.	Motor				dc	ac 400 Hz.	Volts		60 Hz. or dc	400 Hz.
8042H28	50	3 P.D.T.	1	B	50	50	50	115/200	50	50	50	5	0.75							
H33	25	3 P.D.T.	...		25	25	25		25	25	25	.....	.....	52	0.62	.....	29V. D-c	18	7V. D-c +0 −5.5	.....
8042H45	50	1 P.S.T.	...		50	50	50	115	50	50	35	.....	.....		.....	0.210				
H48	50	1 P.S.T.	1		50	50	50	115	50	50	35	5	0.75		.....	0.210	124V. A-c	90	42V. A-c +0 −32	40V. A-c +0 −30
8042H51	100	3 P.S.T.	...	A-B❷	100	100	75	115/200	100	100	75	.....	.....	.....	.....	0.350				
H52	100		1		100	100	75		100	100	75	5	0.75		.....	0.350	124V. A-c	90	42V. A-c +0 −32	40V. A-c +0 −30
8042H61❸	50	3 P.S.T.	1	B	50	50	50	115/200	50	50	50	5	0.75	1030	0.145	.....	134V. D-c	90	32V. D-c +0 −25	.....
H63❸	100		1		100	100	100		100	100	100	5	0.75	1213	0.125					
8042H91	25	3 P.S.T.	...	B	25	25	25	115/200	25	25	25	.....	.....	50.8	0.64	.....	29V. D-c	18	7V. D-c +0—5.5	.....
H92	25	3 P.S.T.	1		25	25	25		25	25	25	5	1.0	50.8	0.64					
8042H93	25	3 P.S.T.	...	●	25	25	25	115/200	25	25	25	.....	.....	772	.....	0.150	124V. A-c	90	40V. A-c +0 −30	40V. A-c +0 −30
H94			1									5	1.0							
8042H118❹	12		1		12	12	6		12	12	6	1.25❹	.....						7V. D-c +0 −5.5	.....
H141	25	3 P.S.T.	...	B	25	25	25	115/200	25	25	25	.....	.....	52	0.62	.....	29V. D-c	18		
H142	25		1		25	25	25		25	25	25	5	0.75							
8042H143	25	3 P.S.T.	...	B	25	25	25	115/200	25	25	25	.....	.....	.....	.....	0.150	124V. A-c	90	42V. A-c +0 −32	40V. A-c +0 −30
H144			1									5	0.75							
8042H145	50	3 P.S.T.	...	B	50	50	50	115/200	50	50	50	.....	.....	52	0.62	.....	29V. D-c	18	7V. D-c +0—5.5	.....
H146			1									5	0.75							
8042H147	50	3 P.S.T.	...	B	50	50	50	115/200	50	50	50	.....	.....	.....	.....	0.150	124V. A-c	90	42V. A-c +0 −32	40V. A-c +0 −30
H148			1									5	0.75							
8042H151	200		...	B	200	100	200		200	100	150	.....	.....	52	0.62					
H152	200		1	B	200	100	200		200	100	150	5	0.75	52	0.62				7V. D-c +0 −5.5	.....
H153	300	1 P.S.T.	...	A	300	100	250	115	300	100	150	.....	.....	52	0.62	.....	29V. D-c	18		
H155	50		...	B	50	50	50		50	50	50	.....	.....	78	0.50					
H156	50		1	B	50	50	50		50	50	50	5	0.75	78	0.50					
8042H159	100	1 P.S.T.	...	B	100	100	100	115	100	100	75	.....	.....	64.5	0.50					
H160	100	1 P.S.T.	1	B	100	100	100	115	100	100	75	5	0.75	64.5	0.50				7V. D-c +0 −5.5	.....
H161	100	3 P.S.T.	...	B	100	100	100	115/200	100	100	100	.....	.....	55	0.60	.....	29V. D-c	18		
H162	100	3 P.S.T.	1	B	100	100	100	115/200	100	100	100	5	0.75	55	0.60					
8042H166	100	1 P.S.T.		A	100	100	100	115	100	100	75			78	0.41				7V. D-c +0 −5.5	.....
H167	200	1 P.S.T.	...	A	200	100	200	115	200	100	150	.....	.....	64.5	0.55	.....	29V. D-c	18		
8042H181	100	1 P.S.T.	...		100	100	100	115	100	100	75	.....	.....	51						
H182	100	1 P.S.T.	1	B	100	100	100	115	100	100	75	5	1.0	51	0.65	.....	29V. D-c	18	7V. D-c +0—5.5	.....
H201	50	3 P.S.T.	...		50	50	50	115/200	50	50	50	.....	.....	50.8						
H202	50	3 P.S.T.	1		50	50	50	115/200	50	50	50	5	1.0	50.8						

❶ Intermittent duty ratings:

Type	Continuous	15 Minutes	5 Minutes	1 Minute	Max. Inrush
25 Amp., 3PST	25	32	37	50	150
50 Amp., SPST	50	65	75	100	300
50 Amp., 3PST	50	64	75	100	300
100 Amp., SPST	100	130	150	200	600
100 Amp., 3PST	100	130	150	200	600
200 Amp., SPST	200	260	300	400	1200
300 Amp., SPST	300	390	450	600	1800

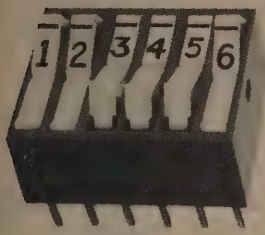
❷ 60 hertz, Class A; 400 hertz, Class B.

● Power contact ratings shown for 28V dc also apply at 120V dc except all poles must be wired in series. Auxiliary contact ratings listed are at 115V, 400 hertz. At 120V dc, auxiliary contacts are rated 0.5 amperes Resistive and .125 amperes Inductive.

● Ambient temperature range −70° to +85° C.

❹ Rated electrical life 200,000 operations minimum. Auxiliary contact rating listed is Resistive. Rated 0.75 amperes Inductive.

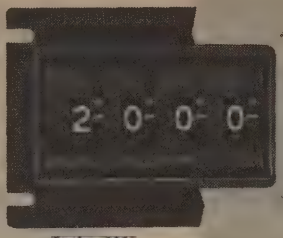
EECO Switches



Series 2400



Series 1800



Series 2000

SERIES 2000 ROTARY THUMBWHEEL SWITCHES

A low-cost, general-purpose switch designed for industrial applications. Both lighting and sealing models are available. The individual switch modules listed are available in assemblies up to 34 switches; specifications and prices are available on request. **Current Rating:** .125 amp at 115 VAC or 28 VDC. **Dielectric Withstanding Voltage:** 1000 volts, rms. **Insulation Resistance:** 1000 megohms. **Contact Resistance:** .100 ohms, initial; .200 ohms after use. **Operating Temperature Range:** −40° C to +75° C. **Size:** 1.375″ high × .500″ wide.

EECO Number	Description	Net Each
2203G	1 pole, 10 pos., BCD w/odd bit parity	$13.60
2205G	1 pole, 10 pos., BCD w/comp., diode prov.	12.90
2206G	1 pole, 10 pos., BCD w/comp.	12.25
2208G	Biquinary	15.70
2209G	10 pos., 1-2-4-2′ w/ diode provision	15.70
2210G	1 pole, 10 pos., 9's comp. w/comp.	16.25
2211G	1 pole, 10 pos., decimal, shorting	11.25
2213G	1 pole, 10 pos., decimal, shorting	12.10
2214G	1 pole, 10 pos., BCD w/diode prov.	8.80
2216G	Voltage divider, Wolff-Poggendorf	12.65
2217G	2 pole, 10 pos., decimal	10.90
2220G	1 pole, 10 pos., 10's comp. w/comp .	16.25
2222G	1 pole, 10 pos., decimal w/diode prov.	8.55
2223G	7-bar indicator	16.25
2227G	1 pole, 10 pos., BCD w/even bit parity	13.60
2228G	1 pole, 10 pos., BCD	8.15
2229G	1 pole, 10 pos., decimal	8.05
2231G	10 pos., 1-2-2′-4 Berkeley code	12.65
2233G	2 pole, 10 pos., BCD and decimal	14.95
2234G	10 pos., incremental voltage divider	14.95
2235G	2 pole, 8 pos., BCO with comp.	16.25
2245G	1 pole, 12 pos., binary w/diode prov.	14.35
2248G	2 pole, 10 pos., BCD and decimal	14.95
2249G	1 pole, 10 pos., BCD w/odd bit parity, w/diode provision	14.35
2250G	1 pole, 10 pos., 9's comp. w/comp., diode provision	17.00
2253G	12 pos., NOT/NOR decimal, all shorted but one	13.60
2254G	10 pos., 1-2-4-2′ w/comp., diode prov.	16.25
2257G	2 pole, 10 pos., BCD with comp.	14.95
2258G	2 pole, 10 pos., BCD w/not true bits connected to separate common	13.60
2260G	5-bit Teletype code	16.25
2261G	5-bit Teletype code w/diode prov., even bit bit parity	19.10
2262G	1 pole, 10 pos., BCD	8.90
2263G	1 pole, 10 pos., BCD w/comp., diode prov.	12.95
2264G	2 pole, 10 pos., marked + and −	8.05
2266G	2 pole, 10 pos., marked 0 and 1	8.05
2268G	1-2-3-6 resistor decade	14.95
2272G	1-2-3-4 capacitor decade	14.95
2274G	1 pole, 10 pos., Excess 3 w/comp.	16.25
2276G	2 pole, 10 pos., dual BCD w/diode prov.	15.70
2277G	Kelvin-Varley voltage divider	13.60
2280G	1 pole, 16 pos., binary w/comp.	13.60
2281G	1 pole, 12 pos.	8.15
2283G	1 pole, 16 pos.	12.65
2284G	1 pole, 8 pos.	9.55
2285G	1 pole, 16 pos., binary w/comp.	14.95
2286G	1 pole, 16 pos., binary w/comp., diode prov.	15.70
2287G	2 pole, 16 pos., binary w/not true bits connected to separate common	16.25
2288G	2 pole, 16 pos., binary w/not true bits connected to separate common	16.25
2289G	2 pole, 16 pos., binary w/comp.	17.00

SERIES 1800 ROTARY THUMBWHEEL SWITCHES

Extra-slim thumbwheel switches in .315″ width. Switches snap into panel cutout without mounting hardware. Output termination on printed circuit board allows direct wire, edge connector or PCP termination. The individual switch modules listed are available in assemblies with many different options; details and prices available on request. **Current Rating:** .100 amps at 28 V AC/DC. **Dielectric Withstanding Voltage:** 1000 volts, p-p. **Insulation Resistance:** 1000 megohms. **Number of Switching Positions:** 10. **Contact Resistance:** .100 ohms. **Operating Temperature Range:** −20° C to +65° C. **Size:** 1.300″ high × .315″ wide.

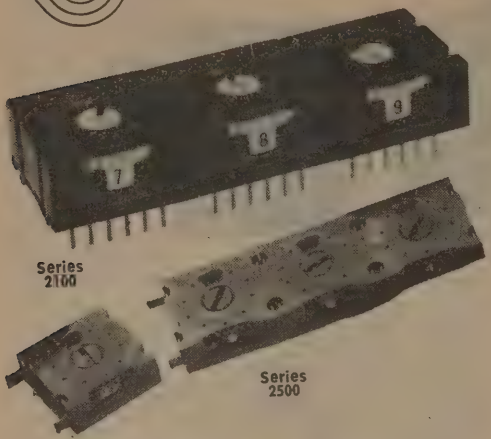
EECO Number	Description	Net Each
180001G	1 pole, decimal, 0-9 marking	$2.85
180002G	1 pole, BCD 1-2-4-8, 0-9 marking	2.85
180005G	2 pole, repeating, 0, 5 marking	2.85
180006G	1 pole, BCD 1-2-4-8 with complement, 0-9 marking	4.40
180010G	2 pole, repeating, 0, 1 marking	2.85
180011G	2 pole, repeating, +, − marking	2.85
180012G	1 pole, BCD 1-2-4-8 complement only, 0-9 marking	3.70
180052G	1 pole, BCD 1-2-4-8 with diode provision, 0-9 marking	3.70

SERIES 2400 MINI-DIP SWITCHES

The 2400 Series of DIP switches features Form A and Form C contact arrangements with positive wiping action on all contacts. Standard DIP dimensions allow high density mounting to printed circuit boards by hand, dip or flow soldering or by hand insertion into sockets. Terminal centers of .100″ × .300″ allow retrofitting of other brands of DIP switches. Optional clear plastic covers prevent contamination during soldering and cleaning. Switches may be locked into selected positions by a nylon rod thru rockers. Switches measure .385″ wide × .357″ above board × .100″ per Form A (.200″ per Form C) per station. **Operating Temperature Range:** −10° C to +85° C. **Current Rating:** 125 amp at 28 volts. **Dielectric Withstanding Voltage:** 500 volts, rms **Insulation Resistance:** 1000 megohms. **Contact Resistance:** .050 ohms, initial; .100 ohm after life test. **Standard Colors:** Form A, blue housing with white rocker; Form C, green housing with white rocker. Standard bottom seal.

EECO Number	Contact Form	No. of Switches	Net Each
240002GB/GS	A	2	$2.15/2.55
240003GB/GS	A	3	2.25/2.65
240004GB/GS	A	4	2.35/2.75
240005GB/GS	A	5	2.45/2.85
240006GB/GS	A	6	2.55/2.95
240007GB/GS	A	7	2.65/3.05
240008GB/GS	A	8	2.75/3.15
240009GB/GS	A	9	2.85/3.25
240010GB/GS	A	10	2.95/3.35
241001GB/GS	C	1	2.95/3.35
241002GB/GS	C	2	3.20/3.60
241003GB/GS	C	3	3.45/3.85
241004GB/GS	C	4	3.70/4.10
241005GB/GS	C	5	3.95/4.35

EECO No. 234540-13 Mini-Dip Locking Rods— Rods 12″ long in packages of 10 rods. Net Each Pkg. . . .$5.50



SERIES 2600 LOW PROFILE STRIPSWITCH

Single switch modules can form a multistation switch assembly of any desired length. Different codes may be mixed and matched within one integral unit. Switches mount vertically or horizontally on either side of PC board. May be adjusted with thumbwheel or screwdriver. **Number of Switch Positions:** Ten. **Operating Temperature Range:** −20° C to +75° C. **Dielectric Withstanding Voltage:** 500 volts, rms. **Insulation Resistance:** 1000 megohms. **Contact Resistance:** .100 ohms initial; .200 ohms after life test. **Current Rating:** .125 amps at 28 VDC.

EECO Number*	Description	Net Each
1A26XX01G	1 pole, 10 position, decimal, 0-9 marking	$3.95
1A26XX02G	1 pole, 10 position, BCD 1-2-4-8, 0-9 marking	3.40
1A26XX11G	2 pole, 10 position, repeating + and −	4.20
1A26XX12G	1 pole, 10 position, BCD 1-2-4-8 complement only, 0-9 marking	4.20
1A26XX28G	1 pole, 10 position, BCD 1-2-4-8 with complement, 0-9 marking	4.70
1A26XX56G	2 pole, 10 position, BCD with separate common to not true bits, 0-9 marking	4.70

*To complete EECO number, replace **XX** in number with orientation number from chart below.

SERIES 2100 STRIPSWITCH

Stripswitches can be soldered directly onto a printed circuit board or to socket strips. They can be set by means of a knurled wheel, a screwdriver or by a shaft extension and can be mounted vertically or horizontally on either side of a printed circuit board. Stripswitches are available singly or as strips up to four switches. **Number of Switch Positions:** Ten or sixteen. **Operating Temperature Range:** −20° C to +75° C. **Current Rating:** 0.125 amps at 28 V DC. **Dielectric Withstanding Voltage:** 500 volts, rms. **Insulation Resistance:** 1000 megohms. **Contact Resistance:** .100 ohms initial; .200 ohms after life test. **Contacts:** Gold plate over nickel.

EECO Number*	Description	Net Each
21XX01G	1 pole, 10 position, decimal, 0-9 marking	$3.20
21XX02G	1 pole, 10 position, BCD 1-2-4-8, 0-9 marking	2.75
21XX11G	1 pole, 10 position, repeating + and −	3.60
21XX12G	1 pole, 10 position, BCD 1-2-4-8 complement only, 0-9 marking	3.60
21XX17G	1 pole, 10 position, complement of 9's complement, 0-9 marking	3.95
21XX19G	1 pole, 10 position, 9's complement 1-2-4-8, 0-9 marking	3.95
21XX28G	1 pole, 10 position, BCD with complement, 0-9 marking	3.95
21XX29G	1 pole, 16 position, binary 1-2-4-8 with complement, 0-15 marking	3.95
21XX31G	1 pole, 16 position, binary 1-2-4-8 complement only, 0-15 marking	3.95
21XX33G	1 pole, 16 position, binary 1-2-4-8, 0-15 marking	3.95
21XX34G	1 pole, 16 position, binary 1-2-4-8, 0-9 and A-F marking	3.95
21XX56G	2 pole, 10 position, BCD-1-2-4-8 with separate commons to not true bits, 0-9 marking	3.95
21XX57G	2 pole, 16 position, BCD 1-2-4-8 with separate commons to not true bits, 0-15 marking	3.95
21XX64G	2 pole, 5 position, decimal repeating, no 0 output	3.60
21XX85G	1 pole, 16 position, binary 1-2-4-8 with complement, 0-9 and A-F marking	3.95

*To complete ECCO number, replace **XX** in number with orientation number from chart below.

SERIES 2100 OPTIONS

Option Suffix	Description	Net Each
F	.025" mounting pin†	$0.30
G	Gloss finish—standard	....
T	Alphabet marking	.55
V	1/2" shaft extension‡	.55
Y	1/4" shaft extension	.55

†Recommended when switch has only one row of terminals.
‡On 10-position models only.

SERIES 2300 MICRO-DIP SWITCHES



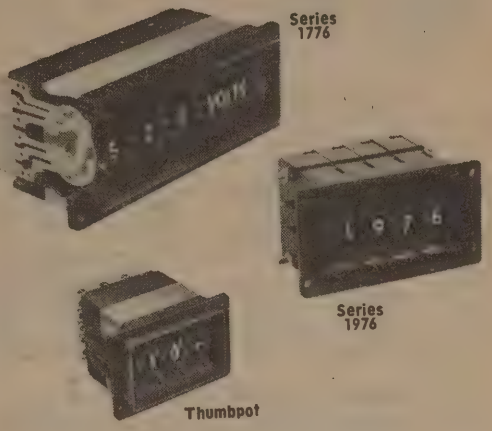
An advanced programming concept for an economical and space saving approach to the programming of electronic equipment. These low-profile, binary-coded switches are designed to be mounted directly to printed circuit boards and require no mounting hardware. May be mounted directly on a board, with socket pins, in DIP socket, etc. The screwdriver slot rotates in either direction to the desired setting, and position is indicated by a notched pointer in the slot. Micro-Dip switches are housed in glass filled nylon housings with terminals on a .100" × .300" grid. **Number of Switch Positions:** Ten or sixteen positions. **Operating Temperature Range:** −10° C to +85° C. **Dielectric Withstanding Voltage:** 250 volts, rms. **Insulation Resistance:** 1000 megohms. **Current Rating:** .100 amps at 5 VDC. **Contact Resistance:** 100 milliohms max. "GB" indicates standard bottom seal.

EECO Number	Description	Net Each
230002G	1 pole, 10 position, BCD 1-2-4-8, 0-9 marking, coded red	$2.75
230010G	2 pole, 10 position, repeating, coded green	3.50
230012G	1 pole, 10 position, BCD 1-2-4-8 complement only, 0-9 marking, coded orange	3.35
230065G	1 pole, 10 position, binary with separate common to not true bits, 0-9 marking, coded blue	3.50
230057GB	16 position, hexidecimal, 2 pole, binary with sep. com. to not true bits	4.00
231002G	Right angle mount, 1 pole, BCD 1-2-4-8	3.35
230102G	1 pole, BCD 1-2-4-8 with extended shaft	3.50
230056G	2 pole, BCD 1-2-4-8 with sep. common to not true bits, 10 pos.	4.00
230034G	1 pole binary, 16 pos, 0-9, A-F, marking hexadecimal	4.20

SERIES 1776 AND 1976
ROTARY THUMBWHEEL SWITCHES

Rotary thumbwheel switches in two sizes and in 8, 10, 12 or 16 positions. The individual switch modules listed in the table are available in assemblies of up to 34 switches with many possible options, such as: installed diodes, decimal points (lighted or unlighted), different finishes, different terminals, lighted characters, alphabet on dial, RFI shielding and different hardware. Specifications and prices of assemblies and options are available on request. **Current Rating:** 125 amp at 115 VAC or 28 VDC. **Dielectric Withstanding Voltage:** 1000 volts, rms for single pole switches; 500 volts, rms for double pole switches. **Insulation Resistance:** 1000 megohms. **Contact Resistance:** 100 ohms initial; 200 ohms after use. **Operating Temperature Range:** −20° C to +75° C. **Size:** Type 1776, .980" high × .50" wide; Type 1976, .980" high × .35" wide. **Standard Color:** Black, except Type 1776 also available in white (Type 1777) or gray (Type 1778); prices slightly higher.

EECO Number Type 1776	EECO Number Type 1976	Description	Net Each
77601G	197601G	1 pole, 10 pos., decimal	$5.85
77602G	197602G	1 pole, 10 pos., BCD 1-2-4-8	5.15
77603G	197603G	1 pole, 10 pos., Excess 3, 1-2-4-8	9.00
77604G	197604G	1-2-3-6 resistor decade	9.00
77605G	197605G	2 pole, 10 pos., repeating 0, 5	7.40
77606G	197606G	2 pole, 10 pos., BCD 1-2-4-8 w/comp.	7.40
77607G	197607G	7-bar indicator	9.80
77608G	197608G	1 pole, 8 pos., BCO 1-2-4	6.40
77609G	197609G	1 pole, 8 pos., BCO 1-2-4 w/comp.	8.15
77610G	197610G	2 pole, 10 pos., repeating 0 and 1	7.40
77611G	197611G	2 pol., 10 pos., repeating + and −	7.40
77612G	197612G	1 pole, 10 pos., BCD 1-2-4-8 comp.	6.70
77613G	197613G	NOT/NOR decimal, all shorted but one	11.25
77614G	197614G	2 pole, 10 pos., Excess 3 1-2-4-8 w/comp.	11.25
77615G	197615G	1 pole, 10 pos., 1-2-4-2′ code	9.80
77616G	197616G	Voltage divider, Wolff-Poggendorf	9.80
77617G	197617G	1 pole, 10 pos., comp. of 9's comp.	9.80
77618G	197618G	1 pole, 8 pos., BCO 1-2-4 comp. only	7.50
77619G	197619G	1 pole, 10 pos., 9's comp. 1-2-4-8	8.90
77620G	197620G	2 pole, 10 pos., 9's comp. w/comp.	11.25
77621G	197621G	1 pole, 10 pos., 10's comp. 1-2-4-8	9.00
77622G	197622G	2 pole, 10 pos., 10's comp. 1-2-4-8 w/comp.	11.25
77623G	197623G	1 pole, 10 pos., comp. of 10's comp.	9.80
77624G	197624G	1-2-4-2′ resistor decade	9.80
77625G	197625G	1-2-2-2-2 resistor decade	9.80
77626G	197626G	2 pole, 10 pos., dual BCD 1-2-4-8	9.80
77627G	197627G	1 pole, 10 pos., 1-2-4-5 code	9.80
77632G	197632G	1 pole, 12 pos., binary 1-2-4-8	8.15
77633G	197633G	1 pole, 16 pos., binary 1-2-4-8	10.45
77634G	197634G	1 pole, 16 pos., binary 1-2-4-8	10.45
77636G	197636G	2 pole, 12 pos., binary 1-2-4-8 w/comp.	9.80
77637G	197637G	2 pole, 16 pos., binary 1-2-4-8 w/comp.	11.95
77638G	197638G	2 pole, 16 pos., binary 1-2-4-8 w/comp.	11.95
77640G	197640G	2 pole, 5 pos., decimal	9.00
77641G	197641G	1 pole, 10 pos., decimal shorting	8.15
77642G	197642G	1 pole, 10 pos., modified 5-bit Teletype code	11.25
77645G	197645G	2 pole, 10 pos., 1-1′-2-5 code w/comp.	11.25
77646G	197646G	4 pole, 10 pos., special BCD 1-2-4-8 w/comp.	12.10
77652G	197652G	1 pole, 10 pos., BCD 1-2-4-8 with diode provision	9.00
77653G	197653G	1 pole, 10 pos., Excess 3, 1-2-4-8 with diode provision	12.10
77656G	197656G	2 pole, 10 pos., BCD 1-2-4-8 w/not true bits connected to separate common	8.50
77658G	197658G	1 pole, 8 pos., BCO 1-2-4 w/diode prov.	10.45
77662G	197662G	1 pole, 10 pos., BCD 1-2-4-8 comp. only with diode provision	10.45
77667G	197667G	1 pole, 10 pos., comp. of 9's comp. with diode provision	12.10
77668G	197668G	1 pole, 8 pos., BCO 1-2-4 comp. only with diode provision	11.95
77669G	197669G	1 pole, 10 pos., 9's comp. 1-2-4-8 with diode provision	12.10
77671G	197671G	1 pole., 10 pos., 10's comp. 1-2-4-8 with diode provision	12.10
77674G	197674G	1 pole, 10 pos., Johnson code	9.80
77676GN	197676GN	EECO voltage divider	9.00
77682G	197682G	1 pole, 12 pos., binary 1-2-4-8 with diode provision	12.10



THUMBPOTS™

The Thumbpot Thumbwheel switch assemblies are special versions of the Series 1776 and 1976 Thumbwheel Switches. They perform all precision voltage dividing and resistance selection functions available with 10-turn potentiometers. Thumbpots spare you the inherent disadvantages of 10-turn pots and their add-on hard-to-read dials, slow and awkward dial rotation, lack of exact resetability, resolution limited to 1 part per 10,000 or less.

With Thumbpots new code, EECO can now offer you digital voltage dividing at prices that are directly competitive with 10-turn pots. Applications of these voltage dividers range from programmed power supplies to blood cell count analyzers—anywhere that precise voltage steps are part of critical programming.

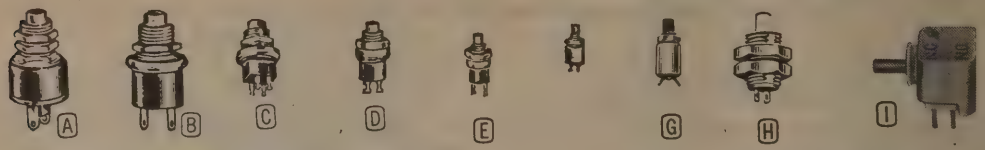
- **In-Line Digital Display** provides fast, easy reading with no errors—even from across the room.
- **Rapid Data Entry.** On a 3-digit incremental voltage divider, large voltage jumps may be made with one quick flick of the finger—without having to turn and turn a dial.
- **Perfect Resetability.** When you return to a previously recorded setting, you are assured it is exactly what you read before. In some cases, this feature eliminates the need for additional panel meters.
- **Environmental Protection.** Ruggedly constructed housings fully enclose the switches to protect these precision devices from adverse conditions.
- **Steps Available.** If you want to limit the range of a decade or two, a simple part-number change accomplishes this valuable option.
- **Standard Options** include lighted or unlighted decimal points, gloss or matte finishes, lighted background and characters, RFI/EMI shielding and fast-mount hardware.

Input Resistance Ohms ±1%	EECO Number Suffixes % Accuracy—Full Scale Voltage 1%	0.5%	0.25%	0.1%	0.05%
100.000	−01	−05	−09	−13	−17
50.000	−29	−32	−35	−38	−41
10.000	−02	−06	−10	−14	−18
5.000	−30	−33	−36	−39	−42
1.000	−03†	−07†	−11†	−15†	−19†‡
500	−31†	−34†	−37†	−40†	−43†‡
100	−04*†	−08*†	−12*†‡	−16*†‡	−20*†‡

†Not available with 4-decade units. ‡Consult factory. *Not available with 3-decade units.

% of Resolution & No. of Decades	EECO Part No. Prefix Type 1776	Type 1976	EECO Number Suffixes % Accuracy—Full Scale Voltage 1%	0.5%	0.25%	0.1%	0.05%
1.0%/2	2W76	2W96	$19.70	$23.30	$27.40	$36 30	$48.58
0.1%/3	3W75	3W96	29.55	34.80	41.70	54.30	73.05
0.01%/4	4W76	4W96	39.50	46.60	55.55	72.45	97.16

Grayhill INC. Pushbutton Switches



SERIES 2000 SNAP ACTION (FIG. A)

Momentary contact design; solder terminals or "Faston" terminal to accommodate ¼" push-on termination (7-21 and 7-22). Extremely fast make-and-break; audible click produced by snap action mechanism. Fine silver fixed and moving contacts. **Total Button Travel:** .065" approx. **Rated:** 10 amps at 115 VAC resistive for 25,000 operations. **Mounting:** 15/32-UNS-2A thread .454" long. Fits 31/64" dia. hole. **Size:** .880" O.D.; 1.176" behind panel; 1.903" overall; No. 7-26, 1.239" behind panel; 1.966" overall.

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
2201	SPST-NO, red button	$5.35	$4.55
7-7	SPST-NO, black button	5.35	4.55
2202	SPST-NC, black button	5.75	4.89
7-8	SPST-NC, red button	5.75	4.89

SERIES 4000 WIPING CONTACT (FIG. B)

Available in standard contact action or positive feel contact action (10-100, 10-101); detent system is independent of contact system. Silver-plated beryllium copper contact solder terminals; tinned music wire spring. **Total Button Travel:** .140" ±.032" (4001, 10-9, 10-100); .110" +.020" -.010" (4002, 10-10, 10-101). **Rated:** 1 amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits 31/64" dia. hole. **Size:** .800" O.D.; .965" behind panel; 1.50" overall.

4001	SPST-NO, red button	$1.95	$1.66
4001UL*	SPST-NO, red button	1.95	1.66
10-9	SPST-NO, black button	1.95	1.66
10-9UL*	SPST-NO, black button	1.95	1.66
10-100	SPST-NO, red button, pos. feel	3.00	2.55
10-101	SPST-NC, black button, pos. feel	3.00	2.55

*UL Listed.

SERIES 35 DOUBLE POLE (FIG. C)

Momentary contact switch has fine silver contact solder terminals; tinned music wire spring. **Total Button Travel:** .062" ±.015". **Rated:** ½ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 15/32-32 UNS-2A thread, .375" long. Fits in 31/64" dia. hole. **Size:** .800" O.D.; .743" behind panel; 1.274" overall.

35-1	DPST-NO, red button	$2.92	$2.48
35-3	DPST-NO, black button	2.92	2.48

SERIES 23 WIPING CONTACT (FIG. D)

Miniature switches with silver-plated brass contact solder terminals; tinned music wire spring. **Total Button Travel:** .095" ±.010". **Rated:** ¼ amp at 115 VAC resistive for 100,000 operations. **Mounting:** 5/16-32 UNEF-2A thread, .250" long. Fits 21/64" dia. hole. **Size:** .468" O.D.; .663" behind panel; 1.059" overall.

23-1	SPST-NO, red button	$2.00	$1.70
23-4	SPST-NO, black button	2.00	1.70

SERIES 30 BUTT CONTACT (FIG. E)

Miniature SPST-NO or -NC momentary contact switches have fine silver shorting bar and contact solder terminals. **Total Travel:** .062" ±.010" (30-1, -3); .065" +.010" -.015" (30-2, -6); .125" +.020" -.010" (30-15, -37). **Rated:** 1 amp at 115 VAC resistive for one-million operations (500,000 operations 30-15, -37). **Mounting:** ¼-32 UNEF-2A thread .250" long. Fits 17/64" dia. hole. **Size:** .592" behind panel, .992" overall (30-1, -3); .605" behind panel, 1.005" overall (30-2, -6); .677" behind panel, 1.077" overall (30-15, -37).

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
30-1	SPST-NO, red button	$1.40	$1.19
30-1UL*	SPST-NO, red button	1.40	1.19
30-2	SPST-NC, black button	1.57	1.33
30-2UL*	SPST-NC, black button	1.57	1.33
30-3	SPST-NO, black button	1.40	1.19
30-3UL*	SPST-NO, black button	1.40	1.19
30-6	SPST-NC, red button	1.57	1.33
30-6UL*	SPST-NC, red button	1.57	1.33
30-15#	SPST-NO, red button	1.74	1.19
30-37#	SPST-NO, black button	1.74	1.19

*UL Listed. #.020" overtravel.

SERIES 39 BUTT CONTACT

SPST-NO types have molded-in solder terminals in diallyl base; prevents flux contamination. Overtravel .015" min. (39-12) and .080" min. (39-101). Fine silver gold plated shorting bar and contact solder terminals. Limit switch 39-101 has nylon button and laminated phenolic insulator. **Voltage Breakdown:** 500 VAC between mutually insulated parts (39-101, 1000 VAC). **Total Button Travel:** .035" ±.015" (39-1, -3); .042" ±.010" (39-2); .130" ±.025" (39-12); .186" ±.025" (39-101). **Rated:** ½ amp at: one million operations (39-1, -3), 250,000 operations (39-101), 100,000 operations (39-12); rated ¼ amp at 250,000 operations (39-2). **Mounting:** 8-40 UNS-2A thread .125" long, fits 17/64" dia. hole except 39-101, 5/16-32 UNEF-2A thread .500" long, fits 21/64" "D" shaped hole. **Size:** .315" behind panel, .615" overall (39-1, -3); .455" behind panel, .755" overall (39-12); .490" behind panel, .780" overall (39-2); .650" plus .187" long button (39-101).

Grayhill No.	Fig.	Description	Net Ea., Lots 1-49	50-99
39-1	F	SPST-NO, red button	$2.01	$1.71
39-3	F	SPST-NO, black button	2.01	1.71
39-2	G	SPST-NC, black button	3.25	2.76
39-12	F	SPST-NO, black or red button	2.48	2.11
39-101	H	SPST-NO, white button	4.31	3.66

SERIES 39-250 PC MOUNT (FIG. I)

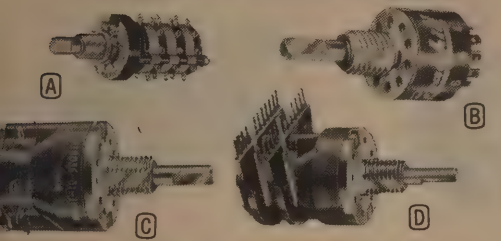
Momentary type, SPDT, butt contact switches rated at ½ amp at 28 VDC or 115 VAC, resistive. Contact Resistance, 25 milliohms or less, initial. Voltage Rating, 1000 VAC. Life Expectancy, 500,000 operations. Protective cap (reusable) seals sw.tch during flux cleaning operation.

Grayhill Number	Description	Net Ea., Lots 1-49	50-99
39-251 RED	Switch only	$1.25	$1.06
39-251 BLK	Switch only	1.25	1.06
39-250 RED	Switch and protective cap	1.50	1.28
39-250 BLK	Switch and protective cap	1.50	1.28
SHH1065	Protective cap	.10	.09



Grayhill Number	Fig.	Button Color	Circuitry	Current at 115 VAC Resistive	Operations at Rated Load	Net Each, Lots of 1-49	50-99
46-101 RED	J	Red	SPDT	¼ Amp	250,000	$2.15	$1.83
46-101 BLK	J	Black	SPDT	¼ Amp	250,000	2.15	1.83
46-102 RED (CAP)	K	Red	SPDT	¼ Amp	250,000	2.26	1.92
46-102 BLK (CAP)	K	Black	SPDT	¼ Amp	250,000	2.26	1.92
46-200 RED	L	Red	DPDT	¼ Amp	250,000	4.57	3.88
46-200 BLK	L	Black	DPDT	¼ Amp	250,000	4.57	3.88
46-05-05-502-0303	M	Red	SPDT	¼ Amp	250,000	3.73	3.17
46-05-05-502-0707	M	Black	SPDT	¼ Amp	250,000	3.73	3.17
46-05-08-502-0303	N	Red	DPDT	¼ Amp	250,000	4.94	4.20
46-05-08-502-0707	N	Black	DPDT	¼ Amp	250,000	4.94	4.20
46-01-05-500-0303	O	Red	SPDT	¼ Amp	250,000	4.67	3.97
46-01-05-500-0707	O	Black	SPDT	¼ Amp	250,000	4.67	3.97
46-01-08-500-0303	P	Red	DPDT	¼ Amp	250,000	5.88	5.00
46-01-08-500-0707	P	Black	DPDT	¼ Amp	250,000	5.88	5.00

ADJUSTABLE STOP ROTARY SWITCHES



Adjustable stops allow you to set and reset the number of positions per pole. Stops are adjusted by locating stop washers or pins at front of switch. Adjustable stop switches provide form, fit, and function equivalents to their fixed-stop counterparts.

1" DIAMETER, 1 AMPERE RATING (FIG. A)

¼" shaft diameter and ⅜" bushing diameter. Distance behind panel is 1" for single deck and 1⅜" for two decks.

Grayhill No.	Max. Pos. Ea. Pole	No. of Decks	Poles per Deck	Net Each, Lots of 1-9	Net Each, Lots of 10-24
2D36-01-1-AJN	10	1	1	$18.97	$16.12
2D36-01-2-AJN	5	1	2	19.79	16.82
2D36-02-1-AJN	10	2	1	24.72	21.01
2D36-02-2-AJN	5	2	2	26.36	22.41
4D30-01-1-AJN	12	1	1	19.67	16.72
4D30-01-2-AJN	6	1	2	20.49	17.42
4D30-02-1-AJN	12	2	1	26.12	22.20
4D30-02-2-AJN	6	2	2	27.76	23.60

½" DIAMETER, 0.3 AMPERE RATING (FIG. B)

¼" shaft diameter and ¼" bushing diameter. Distance behind panel is 0.7" for solder-lug version and 0.677" for PC version.

Grayhill No. Solder Lugs	Panel Seal	Max. Pos. per Pole	Poles per Deck	Net Each, Lots of 1-9	Net Each, Lots of 10-24
0CD36-01-1-AJN		10	1	$14.84	$12.61
0CD36-01-2-AJN		5	2	18.92	16.08
0MD36-01-1-AJN	x	10	1	15.62	13.28
0MD36-01-2-AJN	x	5	2	19.18	16.30
1CD30-01-1-AJN		12	1	15.55	13.22
1CD30-01-2-AJN		6	2	19.48	16.56
1MD30-01-1-AJN	x	12	1	16.40	13.94
1MD30-01-2-AJN	x	6	2	19.79	16.82

To order PC version, insert letter "P" following "D" in part number.

½" DIAMETER, 0.25 AMPERE RATING (FIG. C)

Choice of ⅛" diameter shaft and ¼" bushing diameter or ¼" diameter shaft and ⅜" bushing diameter. Distance behind panel is ¾" for single deck and 1" for two decks. Gold-plated contacts and diallyl insulation. P. C. terminals spaced on 0.075" grid.

SOLDER-LUG VERSION

Grayhill No.	Shaft Dia. (in.)	Max. Pos. /Pole	No. of Decks & Poles	Net Each, Lots of 1-9	Net Each, Lots of 10-24	Net Each, Lots of 25-49
71AD36-01-1-AJN	⅛	10	1—1	$ 9.92	$8.43	$8.33
71AD36-01-2-AJN	⅛	5	1—2	10.34	8.79	8.69
71AD36-02-1-AJN	⅛	10	2—1	13.07	11.11	10.98
71AD36-02-2-AJN	⅛	5	2—2	13.91	11.82	11.68
71AD30-01-1-AJN	⅛	12	1—1	9.92	8.43	8.33
71AD30-01-2-AJN	⅛	6	1—2	10.34	8.79	8.69
71AD30-02-1-AJN	⅛	12	2—1	13.07	11.11	10.98
71AD30-02-2-AJN	⅛	6	2—2	13.91	11.82	11.68
71BD36-01-1-AJN	¼	10	1—1	9.92	8.43	8.33
71BD36-01-2-AJN	¼	5	1—2	10.34	8.79	8.69
71BD36-02-1-AJN	¼	10	2—1	13.07	11.11	10.98
71BD36-02-2-AJN	¼	5	2—2	13.91	11.82	11.68
71BD30-01-1-AJN	¼	12	1—1	9.92	8.43	8.33
71BD30-01-2-AJN	¼	6	1—2	10.34	8.79	8.69
71BD30-02-1-AJN	¼	12	2—1	13.07	11.11	10.98
71BD30-02-2-AJN	¼	6	2—2	13.91	11.82	11.68

PC VERSION (FIG. D)

Grayhill No.	Shaft Dia. (in.)	Max. Pos. /Pole	No. of Decks & Poles	Net Each, Lots of 1-9	Net Each, Lots of 10-24	Net Each, Lots of 25-49
71ADF36-01-1-AJN	⅛	10	1—1	$10.92	$9.28	$9.17
71ADF36-01-2-AJN	⅛	5	1—2	11.34	9.64	9.53
71ADF36-02-1-AJN	⅛	10	2—1	15.23	12.95	12.79
71ADF36-02-2-AJN	⅛	5	2—2	16.07	13.66	13.50
71ADF30-01-1-AJN	⅛	12	1—1	10.92	9.28	9.17
71ADF30-01-2-AJN	⅛	6	1—2	11.34	9.64	9.53
71ADF30-02-1-AJN	⅛	12	2—1	15.23	12.95	12.79
71ADF30-02-2-AJN	⅛	6	2—2	16.07	13.66	13.50
71BDF36-01-1-AJN	¼	10	1—1	10.92	9.28	9.17
71BDF36-01-2-AJN	¼	5	1—2	11.34	9.64	9.53
71BDF36-02-1-AJN	¼	10	2—1	15.23	12.95	12.79
71BDF36-02-2-AJN	¼	5	2—2	16.07	13.66	13.50
71BDF30-01-1-AJN	¼	12	1—1	10.92	9.28	9.17
71BDF30-01-2-AJN	¼	6	1—2	11.34	9.64	9.53
71BDF30-02-1-AJN	¼	12	2—1	15.23	12.95	12.79
71BDF30-02-2-AJN	¼	6	2—2	16.07	13.66	13.50

TEST CLIPS AND BINDING POSTS



Hex nut under clip allows for tension adjustment. Nickel-plated brass; threaded studs which are nickel-plated steel.

No. 2-0 Threaded Stud, Uninsulated Clip (Fig. E)—Threaded stud 8-32 UNC-2 for panels .025" thick; 1.25" above panel.

No. 2-60 Miniature Test Clip—Similar to No. 2-0, but studless Hole in base tapped to receive 8-32 UNC-2A threaded bolt.

No. 2-4 Threaded Stud, Insulated Clip (Fig. F)—Two molded phenolic washers; for panels to .187" thick; 1.31" above panel.

No. 2-20 Miniature Test Clip (Fig. G)—Miniature; threaded 6-32 UNC-2A stud for panels to .25" thick; .72" above panel.

No. 2-24 Insulated Miniature Clip (Fig. H)—Same as No. 2-20, but has molded phenolic washers for insulation; .78" above panel.

No. 2-41 Ultra-Miniature Test Clip (Fig. I)—Only 3/16" x ⅛" panel area required, exclusive of nut. Nickel-plated brass with nickel-plated, heat-treated beryllium copper spring. Only 0.41" above panel. S ud thread 2-56 UNC-2A.

No. 2-42 Ultra-Miniature Double Test Clip (Fig. J)—Same as 2-41, but double clipping action. Takes ¼" x ⅛" panel area, excluding nut. Stud threaded 2-56 UNC-2A. Only 0.41" above panel.

No.	Description	Net Each, Lots of 1-1999	Net Each, Lots of 2000-4999	Net Each, Lots of 5000-9999	Net Each, Lots of 10,000-24,999
2-0	Uninsul. stud clip	$0.70	$0.60	$0.53	$0.47
2-4	Insul. stud clip	.95	.81	.71	.63
2-20	Min. stud clip	.70	.60	.53	.47
2-24	Min. insul. clip	.95	.81	.71	.63
2-41	Single, ultra-min.	.70	.60	.53	.47
2-42	Double, ultra-min.	.75	.64	.56	.50
2-60	Studless clip	.60	.51	.45	.40

SERIES 29-3 STANDARD (FIG. K)

Similar to series 29-1, but larger. For use in existing equipment or where wider spacing is desirable. Fits ½" dia. hole. Insulation resistance, 200,000 megohms. Breakdown, 3000 VAC between studs and mounting panel. Stud threaded 10-32 UNF-2A. Size, .625" O.D. x 1.02" above panel when open; 1.70" lg. overall when open.

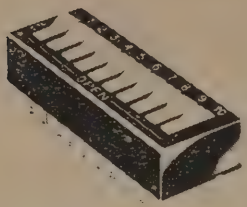
No.	Description and Suffix	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Net Each, Lots of 1000-1999	Net Each, Lots of 2000-2999
29-1	**B**, black; **R**, red	$1.54	$1.16	$1.08	$1.00
29-3	**R**, red; **B**, black	1.54	1.16	1.08	1.00
29-100	**R**, red; **B**, black	1.05	.79	.74	.68
29-104	**R**, red; **B**, black	1.47	1.10	1.03	.96

SERIES 22-16 TRANSISTOR SOCKETS (FIG. L)

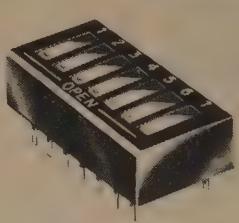
These sockets are designed for the JETEC series transistors, and the tops have indicators for fast alignment of the transistor tab. Terminals are numbered on the bottom of the socket. They can be soldered directly into a printed board or can be mounted in a "D" shaped hole and held by a clip washer. Contacts are wrap-around type, silver-plated beryllium copper with gold plate. Sockets are molded of mica-filled phenolic per MIL-M-14, Type MFE.

No.	Number of Terminals	Net Each, Lots of 1-499	Net Each, Lots of 500-999
22-16-2	3	$0.95	$0.76
22-16-3	3	.95	.76
22-16-4	4	1.00	.80

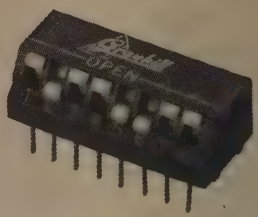
SERIES 76 ROCKER DIP SWITCHES



Raised Type



Recessed Type



Side-Actuated Type

The raised and recessed SPST rocker-actuated switches in Series 76 are intended for application in data processing, communications and other back panel and logic equipment where manual programming may be necessary. The switches are spring-loaded and the sliding ball contact system provides a degree of wiping action. The military qualified version meets military specifications MS83504/1 and MS83504/2. Switches feature plastic resin potting to prevent flux entry during wave soldering. Also available with a tape seal on top of the switches to prevent flux and cleaning solution entry. **Size:** .380" w. x .305" h.—see tables for length. Housing is red polyester. Contacts and terminals are gold plated brass. The side actuated type permits easy access when mounted on the edge of closely racked boards.

INDUSTRIAL TYPES

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL ONLY—RAISED TYPE						
2	0.28	76SB02	$2.90	$2.67	$2.29	$1.74
3	0.38	76SB03	3.00	2.76	2.37	1.80
4	0.48	76SB04	3.10	2.85	2.45	1.86
5	0.58	76SB05	3.20	2.94	2.53	1.92
6	0.68	76SB06	3.30	3.04	2.61	1.98
7	0.78	76SB07	3.35	3.08	2.65	2.01
8	0.88	76SB08	3.45	3.17	2.73	2.07
9	0.98	76SB09	3.55	3.27	2.80	2.13
10	1.08	76SB10	3.60	3.31	2.84	2.16
BOTTOM SEAL ONLY—RECESSED TYPE						
2	0.28	76RSB02	$2.90	$2.67	$2.29	$1.74
3	0.38	76RSB03	3.00	2.76	2.37	1.80
4	0.48	76RSB04	3.10	2.85	2.45	1.86
5	0.58	76RSB05	3.20	2.94	2.53	1.92
6	0.68	76RSB06	3.30	3.04	2.61	1.98
7	0.78	76RSB07	3.35	3.08	2.65	2.01
8	0.88	76RSB08	3.45	3.17	2.73	2.07
9	0.98	76RSB09	3.55	3.27	2.80	2.13
10	1.08	76RSB10	3.60	3.31	2.84	2.16

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL AND TAPE SEAL—RAISED TYPE						
2	0.28	76SB02S	$3.10	$2.85	$2.45	$1.86
3	0.38	76SB03S	3.20	2.94	2.53	1.92
4	0.48	76SB04S	3.30	3.04	2.61	1.98
5	0.58	76SB05S	3.40	3.13	2.67	2.04
6	0.68	76SB06S	3.50	3.22	2.77	2.10
7	0.78	76SB07S	3.55	3.27	2.80	2.13
8	0.88	76SB08S	3.65	3.36	2.88	2.19
9	0.98	76SB09S	3.75	3.45	2.96	2.25
10	1.08	76SB10S	3.80	3.50	3.00	2.28
BOTTOM SEAL AND TAPE SEAL—RECESSED TYPE						
2	0.28	76RSB02S	$3.10	$2.85	$2.45	$1.86
3	0.38	76RSB03S	3.20	2.94	2.53	1.92
4	0.48	76RSB04S	3.30	3.04	2.61	1.98
5	0.58	76RSB05S	3.40	3.13	2.67	2.04
6	0.68	76RSB06S	3.50	3.22	2.77	2.10
7	0.78	76RSB07S	3.55	3.27	2.80	2.13
8	0.88	76RSB08S	3.65	3.36	2.88	2.19
9	0.98	76RSB09S	3.75	3.45	2.96	2.25
10	1.08	76RSB10S	3.80	3.50	3.00	2.28

MILITARY QUALIFIED TYPES

RAISED ROCKER—MS83504/01
RECESSED ROCKER—MS83504/02

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL ONLY—RAISED TYPE						
2	0.28	76MSB02	$3.20	$2.94	$2.53	$1.92
3	0.38	76MSB03	3.30	3.04	2.61	1.98
4	0.48	76MSB04	3.40	3.13	2.67	2.04
5	0.58	76MSB05	3.50	3.22	2.77	2.10
6	0.68	76MSB06	3.60	3.31	2.84	2.16
7	0.78	76MSB07	3.65	3.36	2.88	2.19
8	0.88	76MSB08	3.75	3.45	2.96	2.25
9	0.98	76MSB09	3.85	3.50	3.00	2.28
10	1.08	76MSB10	3.90	3.59	3.08	2.34
BOTTOM SEAL ONLY—RECESSED TYPE						
2	0.28	76MRSB02	$3.20	$2.94	$2.53	$1.92
3	0.38	76MRSB03	3.30	3.04	2.61	1.98
4	0.48	76MRSB04	3.40	3.13	2.67	2.04
5	0.58	76MRSB05	3.50	3.22	2.77	2.10
6	0.68	76MRSB06	3.60	3.31	2.84	2.16
7	0.78	76MRSB07	3.65	3.36	2.88	2.19
8	0.88	76MRSB08	3.75	3.45	2.96	2.25
9	0.98	76MRSB09	3.85	3.50	3.00	2.28
10	1.08	76MRSB10	3.90	3.59	3.08	2.34

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL AND TAPE SEAL—RAISED TYPE						
2	0.28	76MSB02S	$3.40	$3.13	$2.67	$2.04
3	0.38	76MSB03S	3.50	3.22	2.77	2.10
4	0.48	76MSB04S	3.60	3.31	2.84	2.16
5	0.58	76MSB05S	3.70	3.40	2.92	2.22
6	0.68	76MSB06S	3.80	3.50	3.00	2.28
7	0.78	76MSB07S	3.85	3.54	3.04	2.31
8	0.88	76MSB08S	3.95	3.63	3.12	2.37
9	0.98	76MSB09S	4.05	3.73	3.20	2.43
10	1.08	76MSB10S	4.10	3.77	3.24	2.46
BOTTOM SEAL AND TAPE SEAL—RECESSED TYPE						
2	0.28	76MRSB02S	$3.40	$3.13	$2.67	$2.04
3	0.38	76MRSB03S	3.50	3.22	2.77	2.10
4	0.48	76MRSB04S	3.60	3.31	2.84	2.16
5	0.58	76MRSB05S	3.70	3.40	2.92	2.22
6	0.68	76MRSB06S	3.80	3.50	3.00	2.28
7	0.78	76MRSB07S	3.85	3.54	3.04	2.31
8	0.88	76MRSB08S	3.95	3.63	3.12	2.37
9	0.98	76MRSB09S	4.05	3.73	3.20	2.43
10	1.08	76MRSB10S	4.10	3.77	3.24	2.46

THE PIANO-DIP™

SIDE-ACTUATED TYPE

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL ONLY—SIDE ACTUATED						
4	0.48	76PSB04	$4.65	$4.28	$3.91	$3.67
5	0.58	76PSB05	4.80	4.42	4.03	3.79
6	0.68	76PSB06	4.95	4.55	4.16	3.91
7	0.78	76PSB07	5.10	4.69	4.28	4.03
8	0.88	76PSB08	5.25	4.83	4.41	4.15
9	0.98	76PSB09	5.40	4.97	4.54	4.27
10	1.08	76PSB10	5.55	5.11	4.66	4.38

No. of Switches	Length, Inches	Grayhill Number	Net Each, Lots of 1-9	10-24	25-49	50-99
BOTTOM SEAL ONLY—RECESSED TYPE						
4	0.48	76PSB04S	$4.95	$4.55	$4.16	$3.91
5	0.58	76PSB05S	5.10	4.69	4.28	4.03
6	0.68	76PSB06S	5.25	4.83	4.41	4.15
7	0.78	76PSB07S	5.40	4.97	4.54	4.27
8	0.88	76PSB08S	5.55	5.11	4.66	4.38
9	0.98	76PSB09S	5.70	5.24	4.79	4.50
10	1.08	76PSB10S	5.85	5.38	4.91	4.62

Grayhill INC. 3x4 & 4x4 Keyboards

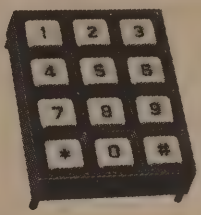
Positive audible and tactile feedback.

Logic compatible when used with standard buffering techniques.

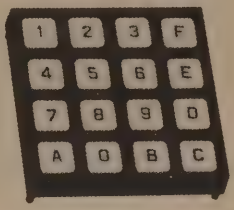
3,000,000 operations per button.

Low profile—recessed buttons in molded-in legend style.

SERIES 83—½" BUTTON CENTERS, POST MOUNTING



1.6" x 2.1"

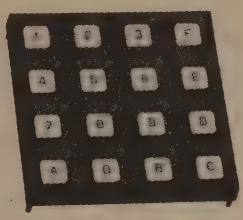


2.1" Square

SERIES 84—¾" BUTTON CENTERS, POST MOUNTING

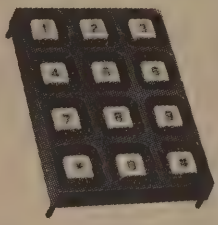


2.25" x 3.0"

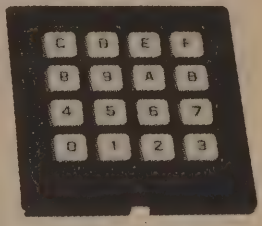


3.0" Square

SERIES 86—½" BUTTON CENTERS, FLANGE MOUNTING*



2.2" x 3.0"



2.7" x 3.0"

*Series 86 also available in sealed version. Ask for Series 86 keyboard information.

x 4 LEGEND CHOICES

-001



Self Legend Snap-on Caps

-002

1	2	3
4	5	6
7	8	9
*	0	#

-003

1	ABC 2	DEF 3
GHI 4	JKL 5	MNO 6
PRS 7	TUV 8	WXY 9
*	OPER 0	#

Two-Shot Molded Buttons Black Legend on White

x 4 LEGEND CHOICES

-004



Self Legend Snap-on Caps

-005

0	1	2	3
4	5	6	7
8	9	A	B
C	D	E	F

-006

C	D	E	F
8	9	A	B
4	5	6	7
0	1	2	3

Two-Shot Molded Buttons Black Legend on White

SNAP-ON CAP

Clear snap-on cap removes easily to allow for self legending of prototypes. Legend card is available with most of the popular legends. Legend peels off of card and is adhesive backed to hold firmly in place. Snap-on cap versions project approximately 0.015" above surface of keyboard.



-101

1	2	3	C
4	5	6	D
7	8	9	E
A	0	B	F

-102

1	2	3	F
4	5	6	E
7	8	9	D
A	0	B	C

-103

1	ABC 2	DEF 3	A
GHI 4	JKL 5	MNO 6	B
PRS 7	TUV 8	WXY 9	C
*	OPER 0	#	D

Two-Shot Molded Buttons, Black Legend on White

HOW TO ORDER

83A — A1 — 103

Ⓐ Ⓑ Ⓒ

Ⓐ Series Number

3 x 4 Keyboard
- **83A**—½" centers, post mounting
- **84A**—¾" centers, post mounting
- **86A**—½" centers, flange mounting

4 x 4 Keyboard
- **83B**—½" centers, post mounting
- **84B**—¾" centers, post mounting
- **86B**—½" centers, flange mounting

Ⓑ Vertical Pinout—Series 83 and 84
- **A1**—2 out of 7 code (2 out of 8, 16 button)
- **B1**—Matrix code
- **C1**—Single pole/common bus

In-Line Pinout—Series 86
- **A2**—2 out of 7 code (2 out of 8, 16 button)
- **B2**—Matrix code
- **C2**—Single pole/common bus

Ⓒ Legend Option Dash Number

Specify **-101, -102** or **-103** for 12 buttons; **-001, -002, -003, -004, -005** or **-006** for 16 buttons.

Series Code	No. of Buttons	Circuit Code	Net Each, Lots of 1-49	50-99	100-499	500-999
83A	12	A1	$10.00	$8.50	$7.50	$6.40
		B1	9.00	7.65	6.75	5.76
		C1	9.50	8.08	7.13	6.00
86A		A2	10.00	8.50	7.50	6.40
		B2	9.00	7.65	6.75	5.76
		C2	9.50	8.08	7.13	6.00
84A		A1	11.00	9.35	8.25	7.04
		B1	10.00	8.50	7.50	6.40
		C1	10.50	8.93	7.88	6.72
83B	16	A1	11.00	9.35	8.25	7.04
		B1	10.00	8.50	7.50	6.40
		C1	10.50	8.93	7.88	6.72
86B		A2	11.00	9.35	8.25	7.04
		B2	10.00	8.50	7.50	6.40
		C2	10.50	8.93	7.88	6.72
84B		A1	12.50	10.63	9.38	8.00
		B1	10.50	8.93	7.88	6.72
		C1	11.50	9.78	8.63	7.36

Keyboard Modules

SERIES 82 PUSHBUTTON MODULES

These switches can be used to generate coded outputs for control systems of all kinds. By combining these different modules on the appropriate circuit board, arrays of any size or shape can be assembled easily. Switching capabilities are practically endless, since any code up to 7-wire can be accomplished right in the switches. No extra logic is required. **Size:** 1-button module, .683″ w x .683″ l; 2-button module, .683″ w x 1.37″ l; 3-button module, .683″ w x 2.057″ l; 6-button module, 1.37″ w x 2.057″ l. All models stand .750″ high above mounting surface. Also available with a clear cap to allow insertion of a legend.

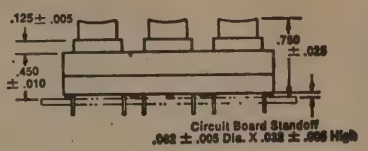
SERIES 82 WITH INSERTABLE LEGENDS

Switches are available with clear protective cap slotted on one side to allow insertion of a clear plastic tab imprinted with the legend. A legend sheet is available with all normally required legends for both vertical and horizontal mounting. Only standard switch circuitry is available. All switches are normally open.

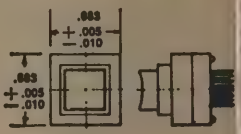
Grayhill No.	No. of Buttons	Circuit	Net Each, Lots of 1-49	50-99	100-499
82-101-71	1	SPST	$2.00	$1.70	$1.50
82-101-74	1	4PST	2.35	2.00	1.76
82-201-41	2	SPST	3.30	2.81	2.48
82-201-44	2	4PST	3.95	3.36	2.96
82-301-61	3	SPST	4.55	3.87	3.41
82-301-64	3	4PST	5.55	4.72	4.16
82-601-81	6	SPST	8.40	7.14	6.30
82-601-14	6	4PST	10.40	8.84	7.80

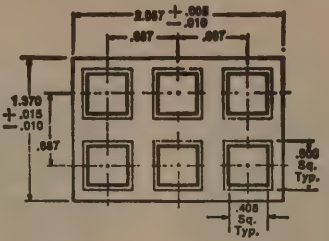
Grayhill No. 82AC2017—Clear legend sheet. Net Each, Lots of: 1–9....**$1.25** 50–99.....**$1.06**; 100–499.... **.94**

6 BUTTON MODULE

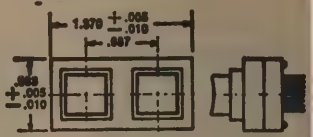


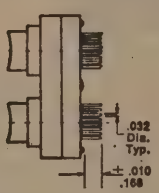
1 BUTTON MODULE



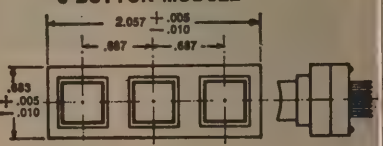


2 BUTTON MODULE

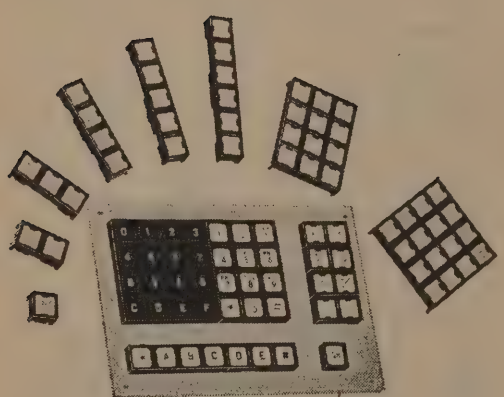




3 BUTTON MODULE



SYSTEM 87 KEYBOARD MODULES



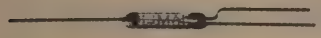
Select the modules you require to build your own keyboard design. The modules can be stacked side-by-side in any configuration that is required and ½″ button centers will be maintained. Circuitry is single pole/common bus in the single-row switches and single pole/common bus or matrix code in the 3 x 4 or 4 x 4 keyboard pads. If you wish, Grayhill will design and provide a custom keyboard to your specifications. Details are available on request. The snap-on caps enable you to legend the buttons as required. A legend card is available from Grayhill. Switches feature positive audio and tactile feedback. **Rating at 24 VDC:** 10 milliamperes, resistive. **Contact Resistance:** Compatible with MOS, TTL and DTL. **Voltage Breakdown:** 250 VAC between mutually insulated parts. **Insulation Resistance:** 1000 megohms, min. **Life Expectancy:** 3,000,000 operations per button. **Contact Bounce:** Less than 4 milliseconds at make, 10 milliseconds at break. **Button Travel:** 0.011″ nominal, total travel. **Pretravel:** 0.008″ nominal. **Operating Force:** 220, ±40 grams. **Mounting:** Mounts to 1/32″ to ⅛″ thick PC board. **Housing:** Black ABS plastic. **Buttons:** White ABS plastic. **Cap:** Clear polycarbonate. **Terminals:** Copper alloy, CDA 725.

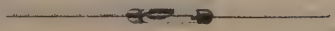
Type of Module	Grayhill Number	Size, Inches H. x L.	Net Each, Lots of 1-49	50-99	100-499
1 Button	87CC3-201	.490 x .490	$1.45	$1.23	$1.08
2 Buttons	87DC3-201	.490 x .990	2.10	1.79	1.58
3 Buttons	87EC3-201	.490 x 1.490	2.70	2.30	2.03
4 Buttons	87FC3-201	.490 x 1.990	3.60	3.06	2.70
5 Buttons	87GC3-201	.490 x 2.490	4.50	3.83	3.38
6 Buttons	87HC3-201	.490 x 2.990	5.00	4.25	3.75
3 x 4 Matrix Code	87AB3-201	1.990 x 1.490	8.50	7.23	6.37
3 x 4 Single Pole/ Common Bus	87AC3-201	1.990 x 1.490	9.00	7.65	6.75
4 x 4 Matrix Code	87BB3-201	1.990 x 1.990	11.00	9.35	8.25
4 x 4 Single Pole/ Common Bus	87BC3-201	1.990 x 1.990	11.50	9.78	8.62

HAMLIN INC

REED SWITCHES · REED & SOLID STATE RELAYS · LIQUID CRYSTAL DISPLAYS

MAGNETIC REED SWITCHES





Micro-miniature ● Tiny ● Sub-miniature ● Compact ● Mercury-wetted
High voltage ● High current

Switch Model No.	Form	Max. DC Contact Rating	Max. Amps	Max. DC Volts	Ampere Turn Pull-In Range	Overall Length Nominal Inches	Glass Length Max. Inches	Glass Diameter Max. Inches	Magnet	Special Features	List Price
HAMILIN DRY REED FORM C MAGNETIC REED SWITCHES											
MDRR-DT-175	C	3W	.240	28	20-35	2.076	.562	.105	H-33	3W Low Profile Form C	$3.88
MRH-DT-175	C	3W	.250	28	20-35	2.124	.610	.130	H-33	Instrument Grade Form C	4.00
MRG-DT-175	C	3W	.250	28	20-35	2.125	.610	.130	H-33	Mod. Current & Voltage	3.45
MLC-DT-186	C	3W	.110	28	20-40	2.125	.610	.130	H-33	Economy Form C - Sub-Minature	2.80
DLC-DT-327	C	10W	.500	200	40-70	3.375	1.562	.218	H-32	Economy Form C - Standard	2.25
DRR-DTH-445	C	10W	.500	250	65-80	3.375	1.562	.218	H-34	High Breakdown Form C	2.55
DRT-DTH-445	C	20W	1.500	500	65-80	3.375	1.562	.218	H-34	Inductive Loads	5.30
HAMILIN DRY REED FORM A MAGNETIC REED SWITCHES											
MMRR-2-185	A	3W	.010	28	22.5-37.5	2.000	.375	.090	H-31	"Grain of Wheat" Size	2.50
MINI-2S-115	A	3W	.110	28	12.5-27.5	1.235	.500	.070	H-31	The Mini-Reed	1.60
MDRR-4-185	A	10W	.500	100	22.5-37.5	1.235	.600	.105	H-33	Low Profile Form A	.95
MSRR-2-185	A	10W	.500	200	22.5-37.5	2.230	.800	.090	H-33	Mod. Current & Voltage	1.00
MRR-2-185	A	10W	.500	200	22.5-37.5	2.230	.800	.130	H-33	Mod. Current & Voltage	1.05
MRR-5-196	A	10W	.500	500	22.5-42.5	2.230	.800	.130	H-33	Breakdown Voltage to 1000 VDC	3.55
MDSR-4-185	A	10W	.500	100	22.5-37.5	1.590	.600	.090	H-33	.090 Dia. Low Profile	.95
MARR-2-185	A	10W	.500	100	22.5-37.5	2.230	.800	.105	H-33	.105 Dia. High Reliability	.95
MARC-2-186	A	10W	.500	100	20-40	2.230	.800	.105	H-33	Economy Form A	.89
MARH-2-185	A	10W	.500	200	22.5-37.5	2.230	.800	.105	H-33	Instrument Grade - Prem. Per.	1.20
MARR-5-196	A	10W	.500	500	22.5-42.5	1.775	.800	.105	H-33	Breakdown Voltage to 1000 VDC	3.55
SRR-2-425	A	15W	1.000	400	62.5-77.5	3.375	1.425	.195	H-32	Mod. Current & Voltage	2.45
DRR-1-425	A	15W	1.000	400	62.5-77.5	3.250	2.000	.207	H-34	Mod. Current & Voltage	1.76
DRR-5-425	A	25W	1.000	1000	62.5-77.5	3.250	2.000	.207	H-34	Breakdown Voltage to 1500 VDC	3.00
DRT-5-425	A	50W	3.000	1000	62.5-77.5	3.250	2.000	.207	H-34	Inductive Load Type Contact	5.00
HAMLIN MERCURY-WETTED MAGNETIC REED SWITCHES											
MDC-1-387	A	50W	2.000	500	40-80	2.250	.610	.130	H-33	Tiny Size, Mercury Wetted	2.50
MDC-DT-420	C	28W	.500	200	40-70	1.600	.625	.132	H-32	Form C, Mercury, Wetted	9.25
HAMLIN HIGH VOLTAGE MAGNETIC REED SWITCHES											
DRVT-10-658	A	50W	.004	7500	90-140	3.250	1.950	.218	H-34	Breakdown Voltage to 10,000 VDC	6.00
HAMLIN HIGH CURRENT MAGNETIC REED SWITCHES											
SRT-2-455	A	100VA	1.000	28 VDC 110 VAC	67.5-82.5	3.375	1.610	.195	H-32	High Power Inductive Loads	3.45
DRR-129-425	A	100W	3.000	250	62.5-77.5	3.250	2.000	.207	H-34	Ideal High Current Loads	3.75

ALNICO V
PERMANENT MAGNETS



Hamlin No.	Size, Inches	Net Each	Hamlin No.	Size, Inches	Net Each
H-31-604	$1/2$ w. x $1/16$ h. x $1/16$	$0.75	H-33-606	$3/4$ w. x $1/8$ h. x $1/8$	$1.10
H-32-605	1 w. x $3/16$	$0.85	H-34-607	1 w. x $1/4$ h. x $1/4$ d.	$1.10

MAGNETICALLY ACTUATED REED PROXIMITY SENSORS

High Reliability and Long Life
Hermetically Sealed



5801
5901
5802
5805
5701
5804

ORDERING/PRICING INFORMATION

Mfr.'s Type	Form	Contact Rating Watts	AC DC OPERATION Switching Voltage	Current Amps	Breakdown Voltage	List Price
5801	A	10	200 VDC 240 VAC	.500	400 VDC	$3.95
5802	C	3	100 VDC 120 VAC	.250	200 VDC	$8.20
5804	A	10	100 VDC 120 VAC	.500	250 VDC	$1.55

Mfr.'s Type	Form	Current Rating	$1\frac{1}{2}$ AMP AC ONLY Voltage Rating	Blocking Voltage		List Price
5901	A	$1\frac{1}{2}$ Amps	120-240 VAC 50-60 Hz	400V Peak		$8.20

Mfr's. Type	Use With	Operating Distance	MAGNETIC ACTUATOR Differential	Release Distance		List Price
5701	5801 5901					
5805	5802 5804	To $5/8$" To $29/32$"	$1/8$"-$1/4$" $1/32$"-$7/16$"	$9/16$"-$13/16$" $39/64$"-1"		$2.40 $2.40

MODULAR PUSH BUTTON SWITCHES

"Creative Switchmakers" for Home Entertainment Products and Test Equipment

If it's a better switch you need . . . better switch to Schadow!

better switch... here's why...

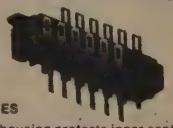


HAND WIRING AND FLO-SOLDERING CONNECTIONS ARE STANDARD
- Solder lugs on top for hand wiring
- PC spikes at bottom for flo-soldering



SUPERIOR MODULAR CONSTRUCTION
- Ease of maintenance . . . switch plunger with sliding contacts is removable from the front without disturbing electrical connections

INDIVIDUAL COIL SPRING LOADED MOVING CONTACTS
- The coil spring-loaded contoured moving contacts have been designed to provide balanced contact pressure for optimum surface to surface interface with the fixed contacts . . . assuring reliable performance in low voltage (dry circuit) applications
- Long term low contact resistance
- Constant coil spring tension at the contact points provides positive self-cleaning action



MODULE ADVANTAGES
- Enclosed housing protects inner contact area from dust and foreign intrusions
- Fixed terminals are "staked" in position, providing an extra seal to help prevent wicking of solder or flux
- Molded PC Board Standoffs, front and back, on bottom side, assure parallel mounting

TECHNICAL DATA

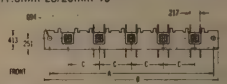
Contact Resistance	4-6 mOhms
after 25,000 cycles	6-20 mOhms
Lifetime Expectation Interlocked (50,000) Momentary, Push Push (100,000) cycles	
Material of Construction	
Fixed contact. Brass/Silver Plated	.0002"
Moving contact	Bimetal Brass/Silver .0004"
Plunger Material	Polycarbonate V-0 rated or Delrin
Contacts	Non-shorting
Housing Material	Polycarbonate V-0 rated or Glass Reinforced Nylon
Terminal Board Material	High Grade Paper Phenolic or V-0 rated material
	Series F
Key pressure with 2PDT	28 oz.
Key pressure with 4PDT	32 oz.
Key pressure with 6PDT	35 oz.
Key pressure with 8PDT	42 oz.
Key pressure with 10PDT	46 oz.
Key pressure with Power Switch	42 oz.

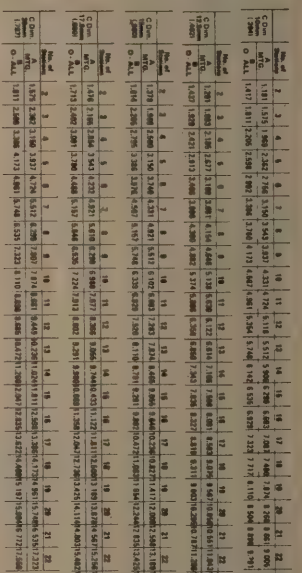
NOTE: Lighter key pressures available, contact factory for details.

NOTE: For switching applications requiring flame retardant materials, contact factory.

CHASSIS DIMENSIONS FOR SERIES F & SERIES G SWITCHES

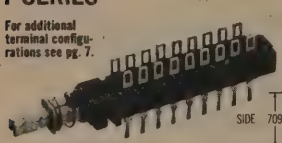
NOTE: Maximum stations to be grouped in one interlocking action. 10mm-10/12.5mm-23/15mm-23/17.5mm-23/20mm-19



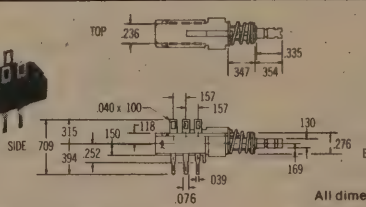


F SERIES

For additional terminal configurations see pg. 7.



F-6U
6P DT

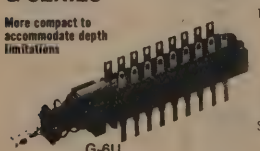


MODULE DIMENSIONS	X	Y
2PDT	.827	1.670
4PDT	1.300	2.143
6PDT	1.772	2.615
8PDT	2.244	3.087
10PDT	2.716	3.559
16PDT		

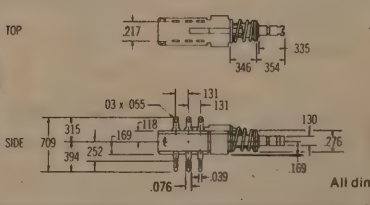
All dimensions in inches

G SERIES

More compact to accommodate depth limitations



G-6U
6P DT



MODULE DIMENSIONS	X	Y
2PDT	.705	1.548
4PDT	1.098	1.941
6PDT	1.492	2.335
8PDT	1.895	2.705

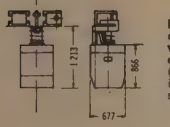
All dimensions in inches

MECHANICAL REFLECTING INDICATOR BUTTONS FOR F & G SERIES

- Uses no energy. Needs no lamp, lamp/holder, power supply, switch contact or wiring.
- Works on the principle of reflecting ambient light through a clear plastic lens.
- Generates no heat and eliminates costly lamp replacement.

FA 110 DUAL LEGEND INDICATOR BUTTON





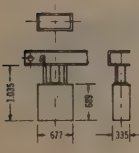
Legend and color change when button is depressed. (Legend is on indicator surface.)

Button Shell Colors: Black, white, grey
Indicators: Black, green, orange, white, grey, yellow, blue



Legend remains the same, but indicator color changes when the button is depressed. (Legend is on rear side of clear lens cap.)

FA 106

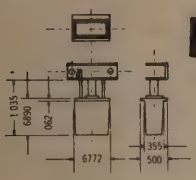




Button Shell Colors: Chrome, black, white, grey, nickel

Indicators: Blue, orange, yellow, green, amber, white

FA 108

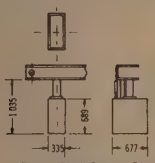




Button Shell Colors: Chrome, black, white, grey, nickel

Indicators: Blue, orange, yellow, green, amber, white

FA 101





Button Shell Colors: Chrome, black, white, grey, nickel
Indicators: Orange, yellow, green, amber, blue, white

right on the button ...

standard buttons for Series F and G Switches

Rectangular buttons also can be snapped on vertically to provide more selection of larger buttons on smaller chassis spacing. Standard colors shown ... other colors to match or contrast with your equipment available on special order.

Rectangular buttons also can be snapped on vertically to provide more selection of larger buttons on smaller chassis spacing. Standard colors shown ... other colors to match or contrast with your equipment available on special order.

FG
Diameter: .346"
Length: .413"
Standard Minimum Spacing: 10mm
Colors: Black, White, Grey, Red, Green, Chrome



F-200
Diameter: .394"
Length: .433"
Standard Minimum Spacing: 12.5mm
Colors: Chrome/ Black, Black/ Black



FZ
Diameter: .394"
Length: .642"
Standard Minimum Spacing: 12.5mm
Colors: Black/Black, White/Black, White/Red, Red/Black, Red/Grey



F1.12 - H-3
F1.15 - H-3
F1.21 - H-3
Diameters: .433", .433", .433"
Lengths: .472", .591", .827"
Cap Depth: .472"
Standard Minimum Spacing: 12.5mm
Colors: Black/ Metal Cap



F1.12 - H-4
F1.15 - H-4
F1.21 - H-4
Diameters: .394", .394", .394"
Lengths: .472", .591", .827"
Cap Depth: .079"
Standard Minimum Spacing: 12.5mm
Colors: Black/ Metal Cap



F1.12 - H-5
F1.15 - H-5
F1.21 - H-5
Diameters: .480", .480", .480"
Lengths: .571", .689", .925"
Cap Depth: .571"
Standard Minimum Spacing: 12.5mm
Colors: Black/ Chrome



FGX
Diameter: .473"
Length: .492"
Standard Minimum Spacing: 12.5mm
Colors: Red, White, Black, Grey, Green



FBC
Width: .386"
Height: .217"
Length: .441"
Standard Minimum Spacing: 10mm
Colors: White, Black, Grey



FBD
Width: .484"
Height: .276"
Length: .413"
Standard Minimum Spacing: 12.5mm
Colors: Black, White, Grey



FU12
Width: .470"
Height: .216"
Length: .440"
Standard Minimum Spacing: 12.5mm
Colors: Black, White, Grey, Red



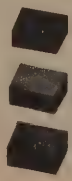
FBB
Width: .579"
Height: .291"
Length: .433"
Standard Minimum Spacing: 15mm
Colors: Black, White, Grey, Red, Chrome



FE
Width: .681"
Height: .236"
Length: .472"
Standard Minimum Spacing: 17.5mm
Colors: Black, White, Grey.



FBA
Width: .677"
Height: .315"
Length: .512"
Standard Minimum Spacing: 17.5mm
Colors: Black, White, Grey
Inserts: Silver or Gold



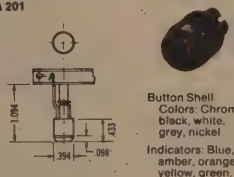
FA
Width: .772"
Height: .394"
Length: .453"
Standard Minimum Spacing: 20mm
Colors: Black, White, Grey,



04-7060-00
Width: .487"
Height: .487"
Length: .590"
Cap Depth: .480"
Standard Minimum Spacing: 12.5mm
Colors: Spun-Finish Chrome



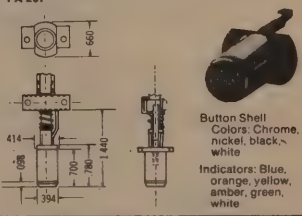
FA 201



Button Shell Colors: Chrome, black, white, grey, nickel

Indicators: Blue, amber, orange, yellow, green, white

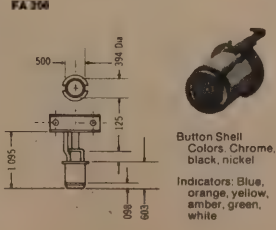
FA 207



Button Shell Colors: Chrome, nickel, black, white

Indicators: Blue, orange, yellow, amber, green, white

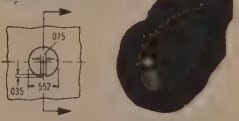
FA 200



Button Shell Colors: Chrome, black, nickel

Indicators: Blue, orange, yellow, amber, green, white

ZF THREADED BUSHING MOUNT WITH FA 200 BUTTON



Button Shell Colors: Chrome, black, nickel, white, grey
Indicators: Blue, orange, yellow, green, amber, white
Choice of black, chrome or grey front mounting nut

NEED GRAPHICS?

Several examples are shown below. Your specific requirements quoted on request. (Graphics pictured on FA 100 push buttons)



CA-110 SERIES

Schadow, the creative switchmaker, has developed a "lampless" push button switch, with bright color indicators — with or without graphics — to mechanically indicate changing functions.

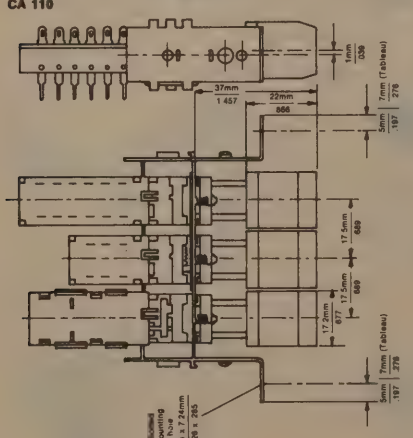
This innovative push-button switch, Series CA 110, is for use in high quality commercial applications. The sophistication of the series in terms of electrical construction (bifurcated contacts — coil spring loaded) and mechanical actions available, will satisfy the most demanding switching requirements.

Tableau or stacked switches are available in Series CA 110, 15 switches wide x 10 high per chassis.

Because a lamp and socket assembly is omitted, economies in manufacture permit a lower pricing schedule, and the elimination of another drain on electrical power sources.

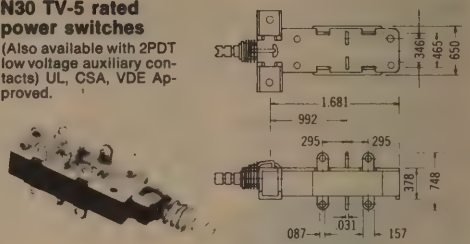
If it's a better switch you need . . . better switch to Schadow.

CA 110

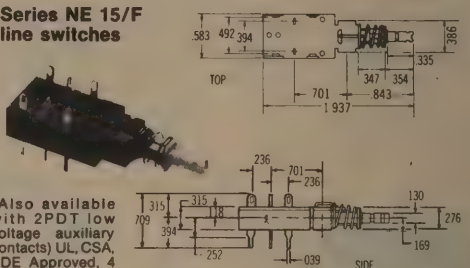


N30 TV-5 rated power switches

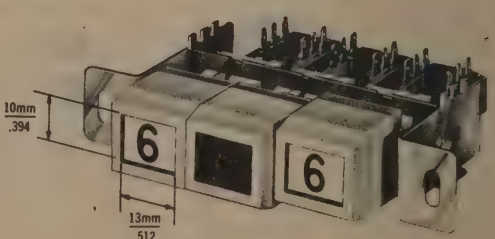
(Also available with 2PDT low voltage auxiliary contacts) UL, CSA, VDE Approved.



Series NE 15/F line switches



(Also available with 2PDT low voltage auxiliary contacts) UL, CSA, VDE Approved, 4 AMP 250 VAC.



Legend and color change when button is depressed. (Legend is on indicator surface.)

or

Legend remains the same, but indicator color changes when the button is depressed. (Legend is on rear side of clear lens cap.)

STANDARD COLORS

BUTTON SHELL	INDICATOR OFF	INDICATOR ON
White	White	White
Gray	Gray	Gray
Black	Black	Black
	Yellow	Yellow
	Green	Green
	Orange	Orange
	Blue	Blue

For custom legend applications contact factory.

Specifications continued on next page

SPECIFICATIONS: SERIES CL and C PUSH BUTTON SWITCHES

MECHANICAL DATA
Key travel = .315" Contact travel = .197"
Life 300,000 cycles depending upon load.
Key pressure — 2 & 4PDT = 35 oz.; 6 & 8PDT = 49 oz.

MECHANICAL ACTIONS AVAILABLE

- Gr = Interlocking.
- Gr_1, Gr_2 = Two independent interlocking groups.
- o.A. = Momentary.
- A.o.R. = Momentary release button for interlocking.
- EE = Push-push.
- Z = Central release for individual latching.
- Sp = Blocking action only one key down. Switching is delayed to increase margin of safety.
- Gr + Sp = Interlocking with blocking. Maximum 15 button (stations) in one row.
- Gr_1 + Sp / Gr_2 + Sp = Two groups of interlocking with blocking. (Group 1 can be blocked independent of Group 2.)
- o.A. + VSp = Momentary action with blocking.
- EE + VSp = Push to engage, push again to release — with blocking. The depressed button must first be released before another button can be depressed.
- Gr + VSp + A.o.R. = Interlocking with blocking and locking of button with one central momentary release button. The depressed button must first be released by central release button or solenoid remote release, before another one button can be depressed.
- Gr + RSp + A.o.R. = Locked — Interlocking with blocking. A central release button must first be depressed before any of one interlocked buttons can be depressed; this button remains latched after release button is allowed to return. The main circuit can be interrupted, if necessary, through the release button contacts. In this way, a 4 amp. circuit can be switched, without current, through standard C-Module switch contacts.

CHASSIS AND STATION DATA

Model Number	17.5
Center to center spacing	0.689"
Number of stations	1-15

Standard Buttons-Series "C" (Non-illuminated) CSX
Standard Buttons-Series "CL" (Illuminated) CRS, CRV

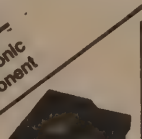
CONTACT TYPES
Standard: Non-shorting — Solder Terminals Top, PC Terminals Bottom.
Shorting: ks — Short PC top, Standard PC bottom: SI
Short PC terminals both sides: SC
Special cut off terminals either side .036" long.

INSULATION MATERIAL
Contact Plate: Phenolic 20.62.8 KI.IV
Module: Polycarbonate (Makrolon)
Contact Plunger 2u, 4u: Polycarbonate (Makrolon)
Contact Plunger 6u, 8u: Polyamid
Outer Plunger: Azetalharz

ELECTRICAL DATA
Voltage Max.: 1000 volts.
Current Max.: 2 amps $\cos_\phi = 1$.
Load Max.: 100 watts ac.
Load Max.: 25 watts dc.
Test Voltages: Contact to ground 300 volts ac.
Terminal to terminal: 2000 volts ac.
Auxiliary terminals to outer-terminals: 1000 volts ac.
Lamp holder contacts to ground: 1500 volts ac.
Insulation Resistance: 10^{12} Ω after 96 hours storage in 95-100% humidity.
Contact Resistance: 5 milli Ω.
Contact Resistance: After 25,000 switching cycles — about 15 milli Ω (depends on load).
Dielectric loss, tgδ $4x10^4$ (300 kHz).

POWER SWITCH MC17 (UL, CSA and VDE Approved)
Max. Voltage — 250 ac.
Max. Current — 6A (Cos ϕ = 0.75)
Max. Current — 3A (Inductive load)
Max. Voltage — 250 dc.
Max. Current — 2A dc
Test voltage between terminals & chassis: 3000V ac.
Test voltage between terminals & contacts: 2000V ac.
Contact Resistance: 50 milli Ω (With rated load).

digitast
modular electronic switch input component



digitast

SR 12.3mm wide x 17.1mm

ST 17.3mm wide x 17.1mm (pictured)

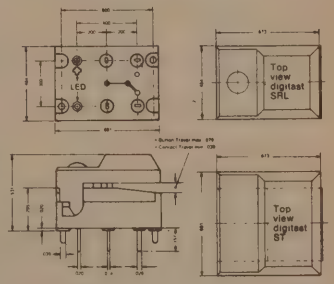


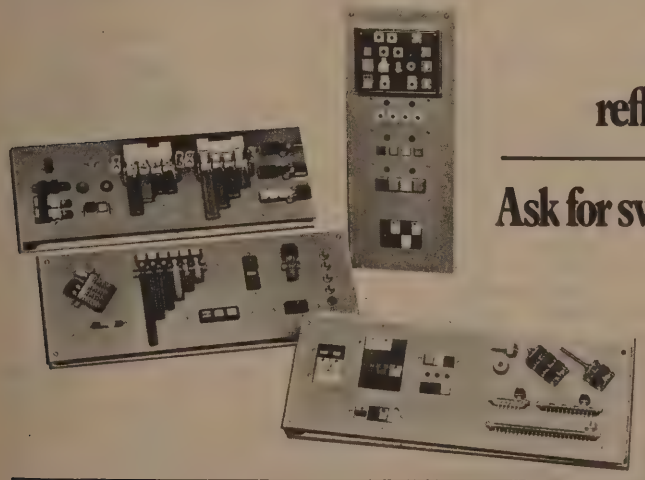
digitast

SRL (LED factory or customer installed) 12.3mm wide x 17.1mm (pictured)

STL (LED factory or customer installed) 17.3mm wide x 17.1mm

Digitast for use with DIP packages, consistent tactile feel, SPDT momentary spring loaded contact, less than 1 ms contact bounce, 24v 10ma or 60v 100ma ratings. Mechanical life greater than 1 million operations. Available with built in LED. PCB mounting. Hot stamped graphics available.





Our switches reflect your creativity.

Ask for switches by our first name.

Schadow ITT

low cost
3 point contact
totally sealed
highest integrity

disc switch

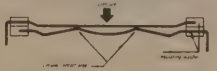
modular electronic components

TOTAL SEALING

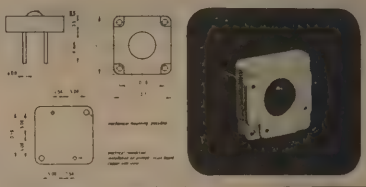
The Disc switch is totally sealed through insert moulding and ultra-sonic welding.



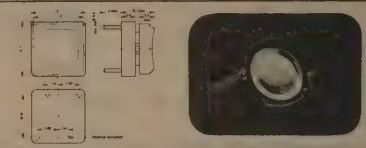
The Disc switch is built around two contact diaphragms separated by an insulating material. The profile of each of these two diaphragms is such that, under the action of applied pressure on the upper dome, it is momentarily collapsed, making instant positive, 3 point contact with the lower diaphragm.



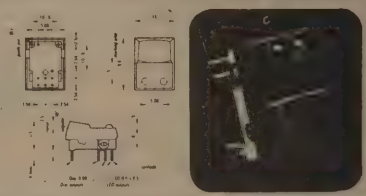
- High Reliability...10 X 10^6
- Self Cleaning
- Broad Range of Switching Power...from a few milliwatts to 30 watts.
- Low Bounce (less than 100 microseconds)



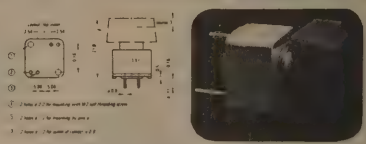
MD Disc module: Extra-flat momentary contact module. Shorter stroke configuration installable directly on printed circuit board. Enables you to design your own keyboard adapted to your own specific needs.



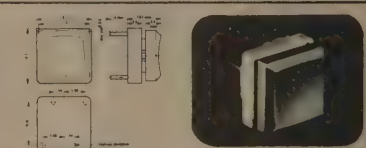
MDP Push button switch assembly with a momentary action contact and incorporating the unique design disc switch. The switch is designed for direct insertion into printed circuit boards. Two principal advantages of the MDP switch are the short stroke (only 0.5 mm) and the crisp tactile feel.



DMB Modular Rocker Disc Switch: Momentary contact for use on printed circuit board. Customer design and installation from bread board through production. Can be mounted in line on 15.24 MM/.600" centers or in a matrix (.600" x .800"). Available with one or two L.E.D.'s (red, green or yellow). Engraving or hotstamped graphics available.



TFD Alpha-numeric data entry keyboard style switch: Size, stroke and touch approximate industry standard for data entry switches. Low profile.



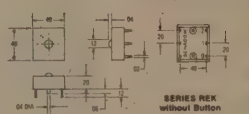
MDP Push button switch assembly with a momentary action contact and incorporating the unique design disc switch. The switch is designed for direct insertion into printed circuit boards. Two principal advantages of the MDP switch are the short stroke (only 0.5mm) and the crisp tactile feel. Contact arrangement: single, normally open contact with momentary action. TERMINALS: tinned terminals — 0.8mm dia. x 4mm long. SOLDERING: since the disc switch is completely sealed, it can be flow soldered. PUSH BUTTONS AND KEYS: dimensions (mm) 12.7 x 12.7 x 3.4 (7.62 with key). STANDARD COLORS: red, blue, light grey, dark grey.

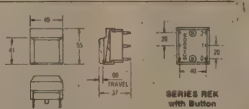
unique
versatile

series "R"

electronic switch input components

Series R is the economical answer for an electronic switch input component to use with standard dual-in-line packages (DIP's), ideally designed for incorporation into a broad variety of electronic devices including advanced microprocessor controlled equipment. Series R is compatible with TTL, CMOS Logic. Redundant contacts insure required reliability.







SPECIFICATIONS:

- Available in SPST and SPDT
- Extremely compact design
- Crisp, consistent tactile feel
- Installable on customer-designed printed circuit boards (edge connections or pin connections)
- Graphics available upon request
- Actuating method can be custom designed or use a choice of standard button colors. black, white, red, blue, green, orange, grey and yellow.

Wattage Capacity	250mW (Series REK)
Voltage	25 V (Series REK)
Current	20mAdc
Contacts	Silver or Gold
Contact Resistance	≤ 100m (Series REK)
Contact Bounce	1 Millisec. Max.
Operating Force	100 Grams
Travel	.03 in
Life	10^6 Cycles @ 10mA
Temperature Range	−20°C to +70°C
Total Button Travel	0.8 mm
Pre-travel	0.4mm

Due to continuing research and product technology, specifications are subject to change without notice.

ITT ITT Schadow inc

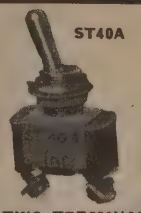
J-B-T® MIL and JAN Toggle Switches

HEAVY DUTY TOGGLE SWITCHES SINGLE, DOUBLE AND 4-POLE

For use in DC circuits; or, AC circuits in frequencies up to 1600 Hz. Rugged, positive action. Built for extra long life to meet government, industrial and commercial requirements for high reliability. Metal top eliminates spring holes; encloses switch behind panel. Features: Aircraft lubricant for operation in temperatures −85° F to +185° F. Withstand high humidity. Meets 100-hour salt-spray test QQ-M-151a. No momentary make or break or mechanical damage under stringent shake tests and 75 G drop test. Tested to make and break at 50% overload for brief periods due to size, solid coin silver contacts and rocker arms. Contact resistance, under 0.005 ohm. Dielectric exceeds 1,000 V rms, 60 Hz at sea level. Screw terminals and solder lugs withstand 30 lb. pull test. **Series MS35058, MS35059:** With lever seal for sand, dust and 15 ft. water submersion tests. Screw terminals; solderable finish. Meets MIL-S-3950A specifications. **Series ST40, 42, 50, 52:** Heavy-duty type; solder and screw terminals. Meet JAN-S-23 specifications. **Series MS25068:** Extra heavy duty terminals, 4-pole construction for single hole mounting. Silicone rubber bushing seals. Surpass rigorous electrical endurance requirements. Molded, hi-arc resistant bodies. MIL-S-3950A for models with suffix -21 or higher.

Nominal Ratings: 20 amps at 125 VAC; 10 amps at 250 VAC. **Switch Movement:** Opposite to that of the lever. **Finish:** Dull finish nickel-plating to government specifications. **Hardware:** Two hex nuts, one internal-tooth lockwasher and locking ring (not supplied in bulk shipments).







4PST EIGHT TERMINALS

MIL-S-3950A Circuit	Screw Terminal No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
On-Off-X	MS25068-24	$10.27	$ 7.93	$6.71	$5.28	$4.84
On-Off*-X	MS25068-25	14.21	11.16	9.41	7.43	6.81
X-Off-On*	MS25068-28	10.94	8.47	7.13	5.63	5.16

4PDT TWELVE TERMINALS

On-Off-On	MS25068-21	$11.81	$ 9.12	$7.71	$6.08	$5.58
On-X-On	MS25068-23	11.81	9.12	7.71	6.08	5.58
On-X-On*	MS25068-26	14.80	11.63	9.82	7.76	7.09
On*-Off-On*	MS25068-27	14.80	11.63	9.82	7.76	7.09
On-Off-On*	MS25068-31	14.80	11.63	9.82	7.76	7.09

SPST TWO TERMINALS

MIL-S-3950C Circuit	Screw Term. No.	1-25	25-49	50-99	100-249	250-499
On-X-Off	MS35058-22	$4.49	$2.96	$2.54	$1.97	$1.81
On-Off-X	MS35058-24	4.49	2.96	2.54	1.97	1.81
On-Off*-X	MS35058-25	5.95	4.08	3.50	2.71	2.47
X-Off-On*	MS35058-28	4.55	3.34	2.87	2.22	2.02
On-X-Off*	MS35058-29	4.82	3.21	2.76	2.14	1.96
Off-X-On*	MS35058-30	4.82	3.21	2.76	2.14	1.96

SPDT THREE TERMINALS

On-Off-On	MS35058-21	$5.01	$3.38	$2.92	$2.66	$2.08
On-X-On	MS35058-23	5.01	3.38	2.92	2.66	2.08
On-X-On*	MS35058-26	5.83	3.94	3.38	2.64	2.41
On*-Off-On*	MS35058-27	5.83	3.94	3.38	2.64	2.41
On-Off-On*	MS35058-31	5.60	3.38	3.29	2.54	2.32

DPST FOUR TERMINALS

On-X-Off	MS35059-22	$5.60	$4.14	$3.50	$2.80	$2.59
On-Off-X	MS35059-24	5.73	4.28	3.56	2.82	2.65
On-Off*-X	MS35059-25	7.42	6.21	4.74	3.77	3.51
X-Off-On*	MS35059-28	6.72	5.47	4.18	3.34	3.10
On-X-Off*	MS35059-29	7.13	5.93	4.51	3.61	3.35
Off-X-On*	MS35059-30	6.72	5.47	4.18	3.34	3.10

DPDT SIX TERMINALS

On-Off-On	MS35059-21	$7.93	$5.17	$3.94	$3.15	$2.93
On-X-On	MS35059-23	7.93	5.17	3.94	3.15	2.93
On-X-On*	MS35059-26	7.62	6.37	4.84	3.87	3.61
On*-Off-On*	MS35059-27	7.42	6.21	4.74	3.77	3.51
On-Off-On*	MS35059-31	7.42	6.21	4.74	3.77	3.51

JAN-S-23 Circuit and Arrangement	Screw Terminal No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	Solder Terminal No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
SPST 2-Term.												
On-X-Off	ST40A	$2.70	$1.91	$1.65	$1.41	$1.14	ST42A	$2.48	$1.65	$1.43	$1.22	$1.06
On-X-Off*	ST40B	3.51	2.46	2.12	1.77	1.49	ST42B	3.03	2.10	1.80	1.52	1.36
Off-X-On*	ST40C	3.51	2.46	2.12	1.77	1.49	ST42C	2.78	1.94	1.69	1.43	1.34
SPDT 3-Term.												
On-X-On	ST40D	3.19	2.27	1.97	1.66	1.42	ST42D	2.70	1.87	1.63	1.38	1.24
On-Off-On	ST40E	3.19	2.27	1.97	1.66	1.42	ST42E	2.70	1.87	1.63	1.38	1.24
On-X-On*	ST40F	3.94	2.89	2.46	2.07	1.73	ST42F	3.27	2.30	1.97	1.69	1.57
On*-Off-On*	ST40G	3.87	2.74	2.37	2.01	1.69	ST42G	3.27	2.30	1.97	1.69	1.57
On-Off-On*	ST40H	3.94	2.89	2.46	2.07	1.73	ST42H	3.27	2.30	1.97	1.69	1.57
DPST 4-Term.												
On-X-Off	ST50K	4.24	2.66	2.26	1.82	1.73	ST52K	3.87	2.42	2.05	1.62	1.49
On-X-Off*	ST50L	5.03	3.26	2.70	2.16	2.05	ST52L	4.42	2.88	2.40	1.89	1.67
Off-X-On*	ST50M	5.03	3.26	2.70	2.16	2.05	ST52M	4.42	2.88	2.40	1.89	1.67
DPDT 6-Term.												
On-X-On	ST50N	4.79	3.14	2.71	2.09	1.98	ST52N	4.24	2.73	2.29	1.82	1.64
On-Off-On	ST50P	4.79	3.14	2.71	2.09	1.98	ST52P	4.24	2.73	2.29	1.82	1.64
On-X-On*	ST50R	5.32	3.55	2.98	2.38	2.31	ST52R	4.84	3.15	2.65	2.12	1.95
On*-Off-On*	ST50S	5.51	3.75	3.15	2.52	2.40	ST52S	5.03	3.30	2.76	2.22	2.05
On-Off-On*	ST50T	5.32	3.55	2.98	2.38	2.31	ST52T	4.84	3.15	2.65	2.12	1.95

MEDIUM DUTY TOGGLE SWITCHES (INCLUDING MS25098 AND MS25100)

Single-hole, flush-mounting switches for DC or AC circuits up to 1600 Hz. Molded bodies fully enclosed. Rugged, positive action built for extra long life. Features: Aircraft lubricant to withstand temperatures −85° F to +185° F. Withstand tropical humidity. Meet 100-hour salt-spray test QQ-M-151a. No momentary make or break or mechanical damage during shake tests or 75 G drop test. Silver-plated stationary contacts; phosphor-bronze movable contacts; meet 50% overload for brief periods. Dielectric exceeds 1,000 V rms, 60 Hz at sea level. Contact resistance well under 0.01 ohm military requirement. Terminals withstand 5-lb. pull. **Nominal Ratings:** 6 amps at 125 VAC; 3 amps at 250 VAC. **Switch Movement:** Same direction as that of the lever. **Finish:** Dull nickel-plate. **Hardware:** Two hex nuts, one internal tooth lockwasher and locking ring (not supplied in bulk shipments). **Series MS25098 and MS25100:** Unique internal design results in surpassing MIL-S-3950A endurance tests. Sand and dust bushing seal; case to terminal seal. Bushing, 13/32" lg. **Series ST12 thru ST27:** Meet JAN-S-23 specs. Double-grip, self-wiping contacts; threaded bushings, 13/32" or ¼" lg.; rear or side solder terminals.

SPST TWO TERMINALS

MIL-S-3950A Circuit	No.	1-24	25-49	50-99	100-249	250-499
On-X-Off	MS25098-22	$4.98	$4.10	$2.93	$2.34	$2.05
On-X-Off*	MS25098-29	6.49	5.34	3.82	3.05	2.67
Off-X-On*	MS25098-30	6.49	5.34	3.82	3.05	2.67

SPDT THREE TERMINALS

On-X-On	MS25098-23	$5.66	$4.66	$3.33	$2.66	$2.33

DPST FOUR TERMINALS

On-X-Off	MS25100-22	$7.17	$5.90	$4.22	$3.37	$2.95
On-X-Off*	MS25100-29	8.44	6.95	4.97	3.97	3.48
Off-X-On*	MS25100-30	8.44	6.95	4.97	3.97	3.48

DPDT SIX-TERMINALS

MIL-S-3950A Circuit	No.	1	2-24	25-49	50-99	100-249
On-X-On	MS25100-23	$7.87	$6.48	$4.63	$3.70	$3.24

SPST TWO TERMINALS

Circuit and Arrangement	JAN-S-23 No.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
On-X-Off	ST12A	$3.63	$1.97	$1.77	$1.70	$1.58
On-X-Off*	ST12B	4.32	2.39	2.16	2.06	1.91
Off-X-On*	ST12C	4.40	2.57	2.33	2.16	2.06
On-X-Off	ST13A†	3.71	2.06	1.86	1.74	1.70

SPDT THREE TERMINALS

On-X-On	ST12D	$4.05	$2.28	$2.09	$1.94	$1.82
On-X-On	ST13D†	4.14	2.34	2.15	2.04	1.88

DPST FOUR TERMINALS

On-X-Off	ST22K	$4.67	$2.72	$2.46	$2.30	$2.16
On-X-Off*	ST22L	5.18	3.11	2.84	2.67	2.49
Off-X-On*	ST22M	5.18	3.11	2.84	2.67	2.49
On-X-Off	ST23K†	4.74	2.78	2.54	2.39	2.22

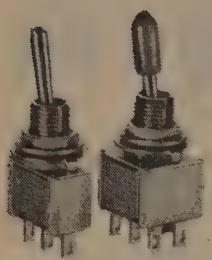
DPDT SIX TERMINALS

On-X-On	ST22N	$5.01	$2.97	$2.69	$2.52	$2.39
On-X-On	ST23N†	5.09	3.00	2.76	2.58	2.42

*Momentary position. †Bushing ¼" long. ‡Side-connected terminals.

SERIES JMT SUBMINIATURE TOGGLE SWITCHES

Combine drastic reduction in size and weight with trouble-free construction. Ideal for manually-controlled, low current, solid state devices and miniaturized circuitry. Used in computers, aircraft, electronic instruments, geophysical and portable equipment of all kinds. Mount in single hole with ¼"-40NS-2A bushing .352" lg. with keyway. Solder terminals firmly staked to withstand repeated soldering; electrical continuity of terminal is to opposite throw of lever. Distinctive green phenolic body. Bat handle .400" lg. **Series JMT-100:** SPDT action. Body .500" x .260" x .505" deep behind panel (including terminals). Wt., 0.19 oz. **Series JMT-200:** DPDT action. Body .500" x .450" x .505" deep behind panel (incl. terminals). Wt., 0.23 oz. **Series JMT-300:** 3PDT action. Body .652" x .500" x .571" deep behind panel (including terminals). Wt., 0.28 oz. **Series JMT-400:** 4PDT action. Body .843" x .500" x .571" deep behind panel (including terminals). Wt., 0.32 oz.



JMT-100

JMT-200 WITH COLOR CAP

SPECIFICATIONS

Electrical Characteristics: Rated 5 amps nom. resistive, 125 VAC and 24 VDC. Initial contact resistance, 5 milliohms max., at 3 VDC, 100 mA. Insulation resistance, 10,000 megohms min. Dielectric strength, 1 kV rms at sea level. Life, 100,000 make-and-break, min. for suffix -23 models; all others 60,000, under load. **Physical Characteristics:** Coin silver switching contacts and rockers. Bright, chrome-plated brass bat handle. Phenolic case and cradle. Bushing, locking ring (1 supplied) and hex nuts (2 supplied) are nickel-plated brass. Clamp and internal-tooth lockwasher chromate treated or stainless steel. **Circuitry:** As indicated in table, below. However, they may also be used as ST (single throw) by wiring only to applicable terminals. Example: JMT-123 connects as an On-Off switch by using center terminals and terminals on one end only.

Positions	SPDT Series JMT-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series JMT-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	JMT-121	$2.19	$1.80	$1.80	$1.55	JMT-221	$2.94	$2.44	$2.44	$2.12
On-None-On	JMT-123	1.87	1.54	1.54	1.33	JMT-223	2.51	2.10	2.10	1.82
On-None-On†	JMT-126	2.19	1.80	1.80	1.55	JMT-226	2.94	2.44	2.44	2.12
On†-Off-On†	JMT-127	2.19	1.80	1.80	1.55	JMT-227	2.94	2.44	2.44	2.12
On-Off-On†	JMT-131	2.19	1.80	1.80	1.55	JMT-231	2.94	2.44	2.44	2.12
None-On-On†	JMT-134	2.19	1.80	1.80	1.55	JMT-234	2.94	2.44	2.44	2.12
On-On-On	.....	....	....	....	....	JMT-232	3.26	2.70	2.70	2.33
On-On-On†	.....	....	....	....	....	JMT-233	3.58	2.95	2.95	2.57
On†-On-On†	.....	....	....	....	....	JMT-235				
	3PDT Series JMT-300					**4PDT Series JMT-400**				
On-Off-On	JMT-321	$4.65	$3.87	$3.87	$3.34	JMT-421	$5.99	$4.96	$4.96	$4.32
On-None-On	JMT-323	4.33	3.62	3.62	3.11	JMT-423	5.56	4.62	4.62	4.01
On†-Off-On†	JMT-327	4.65	3.87	3.87	3.34	JMT-427	5.99	4.96	4.96	4.32
On-Off-On†	JMT-331	4.65	3.87	3.87	3.34	JMT-431	5.99	4.96	4.96	4.32
None-On-On†	JMT-334	4.65	3.87	3.87	3.34	JMT-434	5.99	4.96	4.96	4.32
On-On-On	.....	....	....	....	....	JMT-432	6.79	5.61	5.61	4.86
On-On-On†	.....	....	....	....	....	JMT-433	6.79	5.61	5.61	4.86
On†-On-On†	.....	....	....	....	....	JMT-435	6.79	5.61	5.61	4.86

*See color cap ordering information table. †Momentary position.

*COLOR CAPS

To order, add suffix (as indicated below) to switch number desired (e.g., JMT-123-**W-CAP-10A**). Add 2¢ each to prices shown; **$10.00** per 1000 in bulk.

Color	Suffix W-CAP-	Color	Suffix W-CAP-
White	10A	Orange	10F
Blue	10B	Yellow	10G
Red	10C	Green	10H
Black	10D	Violet	10I
Brown	10E	Gray	10J

VARIATIONS OF SERIES JMT SUBMINIATURE TOGGLE SWITCHES*

Series LFH—with Flat Handle: Identical to JMT series above, except for flat handle (paddle) lever, permanently pinned for proper alignment in operating plane. Handle is satin chrome finish with matching dress nut construction and ratings same as JMT series. Available in all circuit configurations of JMT series, including 3PDT and 4PDT, and with MPC type printed circuit terminals.



LFH

Positions	SPDT Series LFH-100 Flat Handle J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series LFH-200 Flat Handle J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	LFH-121	$2.69	$2.30	$2.30	$2.05	LFH-221	$3.44	$2.94	$2.94	$2.62
On-None-On	LFH-123	2.37	2.04	2.04	1.83	LFH-223	3.01	2.60	2.60	2.32
On-None-On†	LFH-126	2.69	2.30	2.30	2.05	LFH-226	3.44	2.94	2.94	2.62
On†-Off-On†	LFH-127	2.69	2.30	2.30	2.05	LFH-227	3.44	2.94	2.94	2.62
On-Off-On†	LFH-131	2.69	2.30	2.30	2.05	LFH-231	3.44	2.94	2.94	2.62
None-On-On†	LFH-134	2.69	2.30	2.30	2.05	LFH-234	3.44	2.94	2.94	2.62
On-On-On	.....	....	....	....	....	LFH-232	3.76	3.20	3.20	2.83
On-On-On†	.....	....	....	....	....	LFH-233	4.88	3.45	3.45	3.07
On†-On-On†	.....	....	....	....	....	LFH-235	4.88	3.45	3.45	3.07
	3PDT SERIES LFH-300					**4PDT SERIES LFH-400**				
On-Off-On	LFH-321	$5.15	$4.37	$4.37	$3.84	LFH-421	$6.49	$5.46	$5.46	$4.82
On-None-On	LFH-323	4.83	4.12	4.12	3.61	LFH-423	6.06	5.12	5.12	4.51
On†-Off-On†	LFH-327	5.15	4.37	4.37	3.84	LFH-427	6.49	5.46	5.46	4.82
On-Off-On†	LFH-331	5.15	4.37	4.37	3.84	LFH-431	6.49	5.46	5.46	4.82
None-On-On†	LFH-334	5.15	4.37	4.37	3.84	LFH-434	6.49	5.46	5.46	4.82
On-On-On	.....	....	....	....	....	LFH-432	7.29	6.11	6.11	5.36
On-On-On†	.....	....	....	....	....	LFH-433	7.29	6.11	6.11	5.36
On†-On-On†	.....	....	....	....	....	LFH-435	7.29	6.11	6.11	5.36



LL

Series LL—Locking-Lever Switches: Identical to JMT series above, except for locking lever. To prevent accidental or unintentional switching, the spring-loaded locking mechanism must be released by pulling out the top of the lever against spring tension. Available with anodized natural aluminum cap and in anodized red, blue, gold, black and green.

Positions	SPDT Series LL-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series LL-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	LL-121	$3.44	$3.05	$3.05	$2.80	LL-221	$4.19	$3.69	$3.69	$3.37
On-None-On	LL-123	3.12	2.79	2.79	2.58	LL-223	3.76	3.35	3.35	3.07
On-On-On	.....	....	....	....	....	LL-232	4.51	3.95	3.95	3.58
	3PDT Series LL-300					**4PDT Series LL-400**				
On-Off-On	LL-321	$5.90	$5.12	$5.12	$4.59	LL-421	$7.24	$6.21	$6.21	$5.57
On-None-On	LL-323	5.58	4.87	4.87	4.36	LL-423	6.81	5.87	5.87	5.21
On-On-On	.....	....	....	....	....	LL-432	8.04	6.86	6.86	6.11



PB

Series PB—Pushbutton Switches: SPDT pushbutton-actuated subminiature switches with 100,000 cycles average life under load—5 amps at 125 VAC. Coin silver contacts and rocker; silver plated center terminal. Bushing and plunger are nickel-plated brass. High-strength plastic body with ⅜" diam. threaded molded knob. Standard black, available red or white. Also available anodized aluminum in natural, red, blue, gold, black or green. Mount in ¼" D-hole. **Series PBI** same as PB, except smaller shaft and .200" diam. push-on knob. Standard black, available red or white.

	100 Maintained Action				100 Momentary Action				
SPDT	PB-123	$2.53	$1.89	$1.89	$1.58	PB-126	$2.53	$1.89	$1.89	$1.58
SPDT	PBI-123	2.53	1.89	1.89	1.58	PBI-126	2.53	1.89	1.89	1.58

†Momentary position (spring return).

LISTING CONTINUED ON FOLLOWING PAGE

VARIATIONS OF SERIES JMT TOGGLE SWITCHES (CONT'D)

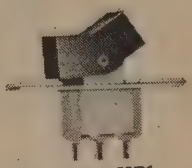
Series MPC—with PC Terminals: Identical to series JMT above, except has PC terminals for direct insertion into printed-circuit boards. Standard bat handle, bright chrome-plated brass.

Positions	SPDT Series MPC-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series MPC-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	MPC-121	$2.29	$1.90	$1.90	$1.65	MPC-221	$3.14	$2.64	$2.64	$2.32
On-None-On	MPC-123	1.97	1.64	1.64	1.43	MPC-223	2.71	2.30	2.30	2.02
On-None-On†	MPC-126	2.29	1.90	1.90	1.65	MPC-226	3.14	2.64	2.64	2.32
On†-Off-On†	MPC-127	2.29	1.90	1.90	1.65	MPC-227	3.14	2.64	2.64	2.32
On-Off-On†	MPC-131	2.29	1.90	1.90	1.65	MPC-231	3.14	2.64	2.64	2.32
None-On-On†	MPC-134	2.29	1.90	1.90	1.65	MPC-234	3.14	2.64	2.64	2.32
On-On-On	.....	....	....	....	....	MPC-232	3.46	2.90	2.90	2.53
On-On-On†	.....	....	....	....	....	MPC-233	3.78	3.15	3.15	2.77
On†-On-On†	.....	....	....	....	....	MPC-235	3.78	3.15	3.15	2.77
	3PDT Series MPC-300					4PDT Series MPC-400				
On-Off-On	MPC-321	$4.95	$4.17	$4.17	$3.64	MPC-421	$6.39	$5.36	$5.36	$4.72
On-None-On	MPC-323	4.63	3.92	3.92	3.41	MPC-423	5.96	5.02	5.02	4.41
On†-Off-On†	MPC-327	4.95	4.17	4.17	3.64	MPC-427	6.39	5.36	5.36	4.72
On-Off-On†	MPC-331	4.95	4.17	4.17	3.64	MPC-431	6.39	5.36	5.36	4.72
None-On-On†	MPC-334	4.95	4.17	4.17	3.64	MPC-434	6.39	5.36	5.36	4.72
On-On-On	.....	....	....	....	....	MPC-432	7.19	6.01	6.01	5.26
On-On-On†	.....	....	....	....	....	MPC-433	7.19	6.01	6.01	5.26
On†-On-On†	.....	....	....	....	....	MPC-435	7.19	6.01	6.01	5.26


Series MPC

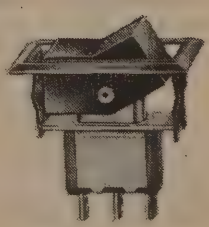
Series MR1—Rocker Switches: Same nominal rating as JMT Series, and dimensionally same below mounting bracket. Built-in extra strength in support column prevents wobbling and provides always-perfect alignment. Green body molded of glass-filled diallyl phthalate. Mounted by standoffs. Rockers are black molded nylon; red and white rockers also available. These switches also available with printed circuit, fast-on, and Wire-Wrap™ terminals. Available also in 3PDT and 4PDT configurations.
Series MP1—Paddle Lever Switches: Identical to subminiature Series MR1 rocker switches, but paddle lever type.

Positions	SPDT Series MR1 and Series MP1‡ J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series MR1 and Series MP1‡ J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	MR1-121	$2.54	$2.15	$2.15	$1.90	MR1-221	$3.29	$2.79	$2.79	$2.47
On-None-On	MR1-123	2.22	1.89	1.89	1.68	MR1-223	2.86	2.45	2.45	2.17
On-None-On†	MR1-126	2.54	2.15	2.15	1.90	MR1-226	3.29	2.79	2.79	2.47
On†-Off-On†	MR1-127	2.54	2.15	2.15	1.90	MR1-227	3.29	2.79	2.79	2.47
On-Off-On†	MR1-131	2.54	2.15	2.15	1.90	MR1-231	3.29	2.79	2.79	2.47
On-On-On	.....	....	....	....	....	MR1-232	3.61	3.05	3.05	2.68
On-On-On†	.....	....	....	....	....	MR1-233	3.93	3.30	3.30	2.92
On†-On-On†	.....	....	....	....	....	MR1-235	3.93	3.30	3.30	2.92
	3PDT Series MR1 and Series MP1					4PDT Series MR1 and Series MP1				
On-Off-On	MR1-321	$5.00	$4.22	$4.22	$3.69	MR1-421	$6.34	$5.31	$5.31	$4.67
On-None-On	MR1-323	4.68	3.97	3.97	3.46	MR1-423	5.91	4.97	4.97	4.36
On†-Off-On†	MR1-327	5.00	4.22	4.22	3.69	MR1-427	6.34	5.31	5.31	4.67
On-Off-On†	MR1-331	5.00	4.22	4.22	3.69	MR1-431	6.34	5.31	5.31	4.67
On-On-On	.....	....	....	....	....	MR1-432	7.14	5.96	5.96	5.21
On-On-On†	.....	....	....	....	....	MR1-433	7.14	5.96	5.96	5.21
On†-On-On†	.....	....	....	....	....	MR1-435	7.14	5.96	5.96	5.21


Series MR1

Series MR2—Rocker Switches: Identical to series MR1, except they are panel mounted with a snap-in bezel. The 1- and 2-pole types can be mounted in the bezel and inserted from the front of the panel; the 3- and4-pole types are inserted in the bezel from behind the panel.
Series MP2—Paddle Lever Switches: Identical to series MR2, except paddle lever type.

Positions	SPDT Series MR2 and Series MP2‡ J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series MR2 and Series MP2‡ J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	MR2-121	$2.89	$2.50	$2.50	$2.25	MR2-221	$3.64	$3.14	$3.14	$2.82
On-None-On	MR2-123	2.57	2.24	2.24	2.03	MR2-223	3.21	2.80	2.80	2.52
On-None-On†	MR2-126	2.89	2.50	2.50	2.25	MR2-226	3.64	3.14	3.14	2.82
On†-Off-On†	MR2-127	2.89	2.50	2.50	2.25	MR2-227	3.64	3.14	3.14	2.82
On-Off-On†	MR2-131	2.89	2.50	2.50	2.25	MR2-231	3.64	3.14	3.14	2.82
On-On-On	.....	....	....	....	....	MR2-232	3.96	3.40	3.40	3.03
On-On-On†	.....	....	....	....	....	MR2-233	4.28	3.65	3.65	3.27
On†-On-On†	.....	....	....	....	....	MR2-235	4.28	3.65	3.65	3.27
	3PDT Series MR2 and Series MP2					4PDT Series MR2 and Series MP2				
On-Off-On	MR2-321	$5.35	$4.57	$4.57	$4.04	MR2-421	$6.69	$5.66	$5.66	$5.02
On-None-On	MR2-323	5.02	4.32	4.32	3.81	MR2-423	6.26	5.32	5.32	4.71
On†-Off-On†	MR2-327	5.35	4.57	4.57	4.04	MR2-427	6.69	5.66	5.66	5.02
On-Off-On†	MR2-331	5.35	4.57	4.57	4.04	MR2-431	6.69	5.66	5.66	5.02
On-On-On	.....	....	....	....	....	MR2-432	7.49	6.31	6.31	5.56
On-On-On†	.....	....	....	....	....	MR2-433	7.49	6.31	6.31	5.56
On†-On-On†	.....	....	....	....	....	MR2-435	7.49	6.31	6.31	5.56


Series MR2

Series MR3—Rocker Switches: Identical to series MR1 and MR2, except they have a larger rocker and mounting plate, requiring larger panel cutout. Rockers of different colors may be interchanged from front of panel without disturbing mounting of switch.

Positions	SPDT Series MR3-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series MR3-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	MR3-121	$2.54	$2.15	$2.15	$1.90	MR3-221	$3.29	$2.79	$2.79	$2.47
On-None-On	MR3-123	2.22	1.89	1.89	1.68	MR3-223	2.86	2.45	2.45	2.17
On-None-On†	MR3-126	2.54	2.15	2.15	1.90	MR3-226	3.29	2.79	2.79	2.47
On†-Off-On†	MR3-127	2.54	2.15	2.15	1.90	MR3-227	3.29	2.79	2.79	2.47
On-Off-On†	MR3-131	2.54	2.15	2.15	1.90	MR3-231	3.29	2.79	2.79	2.47
On-On-On	.....	....	....	....	....	MR3-232	3.61	3.05	3.05	2.68
On-On-On†	.....	....	....	....	....	MR3-233	3.93	3.30	3.30	2.92
On†-On-On†	.....	....	....	....	....	MR3-235	3.93	3.30	3.30	2.92
	3PDT Series MR3-300					4PDT Series MR3-400				
On-Off-On	MR3-321	$5.00	$4.22	$4.22	$3.69	MR3-421	$6.34	$5.31	$5.31	$4.67
On-None-On	MR3-323	4.68	3.97	3.97	3.46	MR3-423	5.91	4.97	4.97	4.36
On†-Off-On†	MR3-327	5.00	4.22	4.22	3.69	MR3-427	6.34	5.31	5.31	4.67
On-Off-On†	MR3-331	5.00	4.22	4.22	3.69	MR3-431	6.34	5.31	5.31	4.67
On-On-On	.....	....	....	....	....	MR3-432	7.14	5.96	5.96	5.21
On-On-On†	.....	....	....	....	....	MR3-433	7.14	5.96	5.96	5.21
On†-On-On†	.....	....	....	....	....	MR3-435	7.14	5.96	5.96	5.21


Series MP2

†Momentary position (spring return). ‡Listed are J-B-T Nos. for rocker switch models. To order paddle lever models, change second character in J-B-T No. to **P**. Example: MP1-121; same price.

LISTING CONTINUED ON FOLLOWING PAGE

VARIATIONS OF SERIES JMT TOGGLE SWITCHES (CONT'D)

Series TO1—Bat Handle: Identical to JMT series above, except contacts rated at 0.5 watts at 28 VDC/AC max. Terminals are for wire wrapping.


T01

Positions	SPDT Series TO1-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series TO1-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	TO1-121	$2.39	$2.00	$2.00	$1.75	TO1-221	$3.34	$2.84	$2.84	$2.52
On-None-On	TO1-123	2.07	1.74	1.74	1.53	TO1-223	2.91	2.50	2.50	2.22
On-None-On†	TO1-126	2.39	2.00	2.00	1.75	TO1-226	3.34	2.84	2.84	2.52
On†-Off-On†	TO1-127	2.39	2.00	2.00	1.75	TO1-227	3.34	2.84	2.84	2.52
On-Off-On†	TO1-131	2.39	2.00	2.00	1.75	TO1-231	3.34	2.84	2.84	2.52
None-On-On†	TO1-134	2.39	2.00	2.00	1.75	TO1-234	3.34	2.84	2.84	2.52
On-On-On	.....	....	....	....	....	TO1-232	3.34	2.84	2.84	2.52
On-On-On†	.....	....	....	....	....	TO1-233	3.98	3.35	3.35	2.97
On†-On-On†	.....	....	....	....	....	TO1-235	3.98	3.35	3.35	2.97
	3PDT Series TO1-300					**4PDT Series TO1-400**				
On-Off-On	TO1-321	$5.25	$4.47	$4.47	$3.94	TO1-421	$6.79	$5.76	$5.76	$5.12
On-None-On	TO1-323	4.93	4.22	4.22	3.71	TO1-423	6.36	5.47	5.47	4.81
On†-Off-On†	TO1-327	5.25	4.47	4.47	3.94	TO1-427	6.79	5.76	5.76	5.12
On-Off-On†	TO1-331	5.25	4.47	4.47	3.94	TO1-431	6.79	5.76	5.76	5.12
None-On-On†	TO1-334	5.25	4.47	4.47	3.94	TO1-434	6.79	5.76	5.76	5.12
On-On-On	.....	....	....	....	....	TO1-432	7.59	6.41	6.41	5.66
On-On-On†	.....	....	....	....	....	TO1-433	7.59	6.41	6.41	5.66
On†-On-On†	.....	....	....	....	....	TO1-435	7.59	6.41	6.41	5.66

Series TO2—Bat Handle: For right angle mounting in printed-circuit boards, has unthreaded bushing, rated at 0.5 watts at 28 VDC/AC max.


T02

Positions	SPDT Series TO2-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series TO2-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	TO2-121	$2.44	$2.05	$2.05	$1.80	TO2-221	$3.44	$2.94	$2.94	$2.62
On-None-On	TO2-123	2.12	1.79	1.79	1.58	TO2-223	3.01	2.60	2.60	2.32
On-None-On†	TO2-126	2.44	2.05	2.05	1.80	TO2-226	3.44	2.94	2.94	2.62
On†-Off-On†	TO2-127	2.44	2.05	2.05	1.80	TO2-227	3.44	2.94	2.94	2.62
On-Off-On†	TO2-131	2.44	2.05	2.05	1.80	TO2-231	3.44	2.94	2.94	2.62
None-On-On†	TO2-134	2.44	2.05	2.05	1.80	TO2-234	3.44	2.94	2.94	2.62
On-On-On	.....	....	....	....	....	TO2-232	3.76	3.20	3.20	2.83
On-On-On†	.....	....	....	....	....	TO2-233	4.08	3.45	3.45	3.07
On†-On-On†	.....	....	....	....	....	TO2-235	4.08	3.45	3.45	3.07

Series TO8—Bat Handle: Similar to series TO2, except designed for vertical mounting. Has an unthreaded bushing and is rated at 0.5 watts at 28 VDC/AC max.


T08

Positions	SPDT Series TO8-100 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249	DPDT Series TO8-200 J-B-T No.	Net Each, Lots of 1-24	25-49	50-99	100-249
On-Off-On	TO8-121	$2.44	$2.05	$2.05	$1.80	TO8-221	$3.44	$2.94	$2.94	$2.62
On-None-On	TO8-123	2.12	1.79	1.79	1.58	TO8-223	3.01	2.50	2.50	2.32
On-None-On†	TO8-126	2.44	2.05	2.05	1.80	TO8-226	3.44	2.94	2.94	2.62
On†-Off-On†	TO8-127	2.44	2.05	2.05	1.80	TO8-227	3.44	2.94	2.94	2.62
On-Off-On†	TO8-131	2.44	2.05	2.05	1.80	TO8-231	3.44	2.94	2.94	2.62
None-On-On†	TO8-134	2.44	2.05	2.05	1.80	TO8-234	3.44	2.94	2.94	2.62
On-On-On	.....	....	....	....	....	TO8-232	3.76	3.20	3.20	2.83
On-On-On†	.....	....	....	....	....	TO8-233	4.08	3.45	3.45	3.07
On†-On-On†	.....	....	....	....	....	TO8-235	4.08	3.45	3.45	3.07

Group I



GROUP I—SP and DP heavy duty toggle switches rated 20A @ 125 VAC, 10A @ 250 VAC.

Positions	Screw Terminals J-B-T No.	Net Each, Lots of 1-24 *	25-49	50-99	100-249	Solder Terminals J-B-T No.	Net Each, Lots of 1-24 *	25-49	50-99	100-249	Push-on (Spade) Terminals J-B-T No.	Net Each, Lots of 1-24 *	25-49	50-99	100-249
	SPST—2 Terminals														
On-None-Off	4222S	$1.75	$1.59	$1.38	$1.15	4222L	$1.58	$1.38	$1.21	$1.00	4222P	$1.58	$1.38	$1.21	$1.00
On-Off-None	4224S	1.75	1.59	1.38	1.15	4224L	1.58	1.38	1.21	1.00	4224P	1.58	1.38	1.21	1.00
On-Off†-None	4225S	2.17	1.91	1.66	1.38	4225L	1.82	1.54	1.36	1.13	4225P	1.82	1.54	1.36	1.13
None-Off-On†	4228S	2.39	2.10	1.82	1.52	4228L	2.00	1.69	1.50	1.24	4228P	2.00	1.69	1.50	1.24
On-None-Off†	4229S	2.39	2.10	1.82	1.52	4229L	2.00	1.69	1.50	1.24	4229P	2.00	1.69	1.50	1.24
Off-None-On†	4230S	2.39	2.10	1.82	1.52	4230L	1.86	1.63	1.40	1.17	4230P	1.86	1.63	1.40	1.17
	SPDT—3 Terminals														
On-Off-On	4221S	$2.17	$1.91	$1.66	$1.38	4221L	$1.82	$1.54	$1.36	$1.13	4221P	$1.82	$1.54	$1.36	$1.13
On-None-On	4223S	2.17	1.91	1.66	1.38	4223L	1.82	1.54	1.36	1.13	4223P	1.82	1.54	1.36	1.13
On-None-On†	4226S	2.79	2.42	2.06	1.69	4226L	2.19	1.91	1.66	1.39	4226P	2.19	1.91	1.66	1.39
On†-Off-On†	4227S	2.79	2.42	2.06	1.69	4227L	2.19	1.91	1.66	1.39	4227P	2.19	1.91	1.66	1.39
On-Off-On†	4231S	2.79	2.42	2.06	1.69	4231L	2.19	1.91	1.66	1.39	4231P	2.19	1.91	1.66	1.39
	DPST—4 Terminals														
On-None-Off	5222S	$2.99	$2.22	$1.89	$1.50	5222L	$2.66	$2.01	$1.67	$1.33	5222P	$2.66	$2.01	$1.67	$1.33
On-Off-None	5224S	2.99	2.22	1.89	1.50	5224L	2.66	2.01	1.67	1.33	5224P	2.66	2.01	1.67	1.33
On-Off†-None	5225S	4.26	3.14	2.63	2.09	5225L	3.59	2.73	2.29	1.81	5225P	3.59	2.73	2.29	1.81
None-Off-On†	5228S	3.52	2.62	2.17	1.71	5228L	2.99	2.27	1.87	1.62	5228P	2.99	2.27	1.87	1.62
On-None-Off†	5229S	3.66	2.73	2.27	1.79	5229L	3.13	2.36	1.97	1.54	5229P	3.13	2.36	1.97	1.54
Off-None-On†	5230S	3.66	2.73	2.27	1.79	5230L	3.13	2.36	1.97	1.54	5230P	3.13	2.36	1.97	1.54
	DPDT—6 Terminals														
On-Off-On	5221S	$3.52	$2.62	$2.17	$1.71	5221L	$2.99	$2.27	$1.87	$1.62	5221P	$2.99	$2.27	$1.87	$1.62
On-None-On	5223S	3.52	2.62	2.17	1.71	5223L	2.99	2.27	1.87	1.62	5223P	2.99	2.27	1.87	1.62
On-None-On†	5226S	3.99	2.99	2.50	1.97	5226L	3.45	2.60	2.16	1.71	5226P	3.45	2.60	2.16	1.71
On†-Off-On†	5227S	4.13	3.14	2.63	2.09	5227L	3.59	2.73	2.29	1.81	5227P	3.59	2.73	2.29	1.81
On-Off-On†	5231S	3.99	2.99	2.50	1.97	5231L	3.45	2.60	2.16	1.71	5231P	3.45	2.60	2.16	1.71
On-On-On	5232S*	4.13	3.14	2.63	2.09	5232L*	3.66	2.61	2.21	1.81	5232P	3.66	2.61	2.21	1.81
On-On-On†	5233S*	4.45	3.32	2.81	2.38	5233L*	3.99	2.89	2.42	1.93	5233P	3.99	2.89	2.42	1.93
On†-On-On†	5235S*	4.52	3.38	2.86	2.40	5235L*	4.05	2.92	2.44	1.97	5235P	4.05	2.92	2.44	1.97

†Momentary. *On orders for single switches, add 50c. *Not presently U.L. listed.

SPACE DOES NOT PERMIT LISTING OF ALL RELATED COMPONENTS. WRITE FOR INFORMATION ON UNLISTED ITEMS.

LINEMASTER® Foot Switches

TREADLITE



3½ x 2⅜ x 1

T-51-D	MAINTAINED	SPDT	ALL MODELS 7A 125-250 VAC ⅙ H.P. 125 VAC EXCEPT T-51-SC T-51-SC3 7A 125 VAC ⅙ H.P. 125 VAC	Lowest cost foot switch formed steel housing. Wt. — 7 ozs.
T-51-S	MOMENTARY	SPDT		
T-51-SC*	MOMENTARY PREWIRED	SPST-N.O.		*Supplied with a 6 ft. 18/2 cord and 2 prong series plug.
T-51-SC3**				**Supplied with a 6 ft. 18/3 cord and 3 prong series plug. Green lead grounded.
T-51-SC36†				†Supplied with 6 ft. 18/3 cord without plug, green lead grounded.
T-51-S Twin	TWO MOMENTARY SWITCHES ON ONE BASE	BOTH SPDT		
T-52-S	TWO STAGE MOMENTARY	BOTH SPDT		
T-54-S	MOMENTARY	DPDT		

GEM



3¹³⁄₁₆ x 1³⁄₃₂

GEM-3**	MOMENTARY PREWIRED	SPST-N.O.	7A 125 VAC ⅙ H.P. 125 VAC	Round switch operates from any position. Wt. — 1 lb. without cordset.
GEM-36†			7A 125-250 VAC ⅙ H.P. 125 VAC	** † Cordset details the same as Treadlite models above.

HI-TREADLITE



3½ x 2½ x 1¼

HT-52-S	MOMENTARY	SPDT	20A 125-250 VAC	
HT-52-SC36†	MOMENTARY PREWIRED	SPST-N.O.	10A 125-250 VAC	Formed steel housing. Wt. — 10 ozs.
HT-53-S	MOMENTARY DOUBLE BREAK	SPDT	20A 125-250 VAC	
HT-54-S	MOMENTARY	DPDT	10A 125 VAC 5A 250 VAC	†Supplied with a 6 ft. 16/3 SJ cord without plug. Green lead grounded.
HT-52-S Twin	TWO MOMENTARY SWITCHES ON ONE BASE	BOTH SPDT	20A 125-250 VAC	

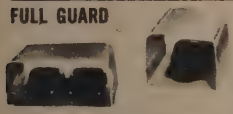
COMPACT



2⅞ x 2½ x 1⅛

491-S	MOMENTARY	SPDT	10A 125-250 VAC	Completely enclosed interior switch. Formed steel housing. Wt. — 7 ozs.
491-D	MAINTAINED	SPST	10A 125 VAC	
492-S	MOMENTARY	SPDT	20A 125-250 VAC	
491-SC*	MOMENTARY PREWIRED	SPST-N.O.	10A 125 VAC	*With 6 ft. 16/2 cord and 2 prong series plug.
491-SC3**			10A 125 VAC	**With 8 ft. 16/3 cord and 3 prong series plug.
491-SC36†			10A 125-250 VAC	†With 6 ft. 16/3 cord green lead grounded
494-S	MOMENTARY	DPDT	10A 125 VAC 5A 250 VAC	††With 6 ft. 18/3 cord and 3 prong series plug.
491-S Twin	TWO MOMENTARY SWITCHES	BOTH SPDT	10A 125-250 VAC	
491-DC3††	MAINTAINED	SPST	7A 125 VAC	

FULL GUARD



522-B14	Complete with hardware, instructions and pre-drilled to accept most single Clipper, Compact and Classic electric foot switches and AirVals.	Dimen. — 6" x 6" x 4½" Wt. — Approx. 4 lbs.
522-B12	Complete with hardware, etc. to accept Clipper Twin Models.	Dimen. — 11" x 6" x 4½" Wt. — Approx. 7 lbs. Painted alert orange.

CLIPPER



4½ x 3½ x 1½

632-S	MOMENTARY	SPDT	20A 125-250 VAC	
632-D	MAINTAINED	SPDT	1 H.P. 125-250 VAC	
633-S	MOMENTARY DOUBLE BREAK	SPDT	20A 125-250 VAC	Cast iron housing. Also available with 7" wide treadle.
635-S	MOMENTARY	DPDT	15A 125 VAC 10A 250 VAC	Wt. — 2¼ lbs.
636-S	TWO STAGE MOMENTARY	BOTH STAGES SPDT		
634-D	MAINTAINED	DPDT	10A 125 VAC 5A 250 VAC	Twin has connecting interwiring tube so that only one cable is used.
632-S Twin	TWO MOMENTARY SWITCHES ON ONE BASE	BOTH SPDT	20A 125-250 VAC	Divider bar between pedals.

COMPACT AIR-VAL	3B-30A2-S	ALL MOMENTARY FOOT OPERATED AIR VALVE	3-way	30 cfm at 100 psi
	3B-30A2-S Twin		3-way	30 cfm at 100 psi
CLIPPER AIR-VAL	3C-30A2-S		3-way	30 cfm at 100 psi
	3C-30A2-S Twin		3-way	30 cfm at 100 psi
	3L-30A2-S Wide Treadle		3-way	30 cfm at 100 psi
	4C-30F2-S		4-way	30 cfm at 100 psi
CLASSIC AIR-VAL	3E-30A2-S		3-way	30 cfm at 100 psi
	3E-10V2-S		3-way VARIABLE	10 cfm at 100 psi

JUNIOR



5½ x 3¼ x 1¼

121-S	MOMENTARY	SPDT	20A 125-250 VAC 1 H.P. 125-250 VAC	Cast aluminum housing. Low tapered treadle permits easy operation. Wt. — 1 lb.
124-S	MOMENTARY	DPDT	15A 125-250 VAC	

CLASSIC II



7¼ x 6¼ x 5

78 SH1	MOMENTARY FULL SHIELD	SPDT	20A 125-250 VAC	Full shield models painted Alert Orange — 2¾ lbs.
78 SH2	MOMENTARY FULL SHIELD	DPDT	1 H.P. 125-250 VAC	
78 SN1	MOMENTARY NO GUARD	SPDT	Heavy pilot duty	No guard models painted textured black — 1½ lbs.
78 SN2	MOMENTARY NO GUARD	DPDT	250 VAC max.	

LINEMASTER® Foot Switches

CLASSIC



5¼ x 3¼ x 1¾

77 SN1	MOMENTARY	SPDT	15A 125-250 VAC	Cast aluminum housing. Wt. — 1½ lbs.
77 SN2	MOMENTARY	SPDT	20A 125-250 VAC	*With 8 ft. 16/3 cord and 3 prong series plug.
77 SN3*			10A 125 VAC	**With 6 ft. 16/3 cord without plug. Green lead grounded.
77 SN4**	MOMENTARY PREWIRED	SPST-NO	10A 125-250 VAC	†With 6 ft. 14/3 cord without plug. Green lead grounded.
77 SN5			15A 125-250 VAC	

DELUXE



5½ x 4¾ x 1¼

81-S	MOMENTARY	SPDT	ALL MODELS 10A 125-250 VAC ½ H.P. 125-250 VAC	Die Cast Housing Wt. — 1 lb.
82-D	MAINTAINED	SPDT		*Supplied with 6 ft. 16/3 cord without plug. Green lead grounded.
81-SC36*	MOMENTARY PREWIRED	SPST-NO		
84-S	MOMENTARY	DPDT		
85-S	MOMENTARY TWO STAGE	BOTH SPDT		
87-S	MOMENTARY TWO PEDAL	BOTH SPDT		

LEKTRO-LOK



5 x 2½ x 1⅛

L-2-S	TWO MOMENTARY SWITCHES SIDE BY SIDE	BOTH SIDES SPDT	15A 125-250 VAC	Mechanical interlock. Stamped metal housing. Wt. — 10 ozs.
L-4-S		BOTH SIDES DPDT	10A 125 VAC 5A 250 VAC	

EXECUTIVE



4⅝ x 4 x 1⅛

72	TWO MOMENTARY SWITCHES SIDE BY SIDE	BOTH SIDES SPDT	15A 125-250 VAC	Mechanical interlock. Modern styled die cast cover. Wt. — 1¼ lbs.
74		BOTH SIDES DPDT	15A 125-250 VAC	

EXPLOSION PROOF



10¼ x 11 x 4⅜

592-EX (Single pedal)	MOMENTARY	SPDT	15A 125 VAC 10A 250 VAC	Class 1, Group D Class 2, Group F & G ¾"- 14 N.P.T. threaded rigid metal conduit entry. Wt. — 7¾ lbs.
594-EX (Single pedal)	MOMENTARY	DPDT	¾ H.P. 125 VAC 1 H.P. 250 VAC	
597-EX (Two pedal)	MOMENTARY	BOTH SPDT	Hv. pilot duty 250 VAC max. 3A 28 VDC	

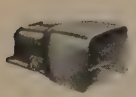
ANTI-TRIP



9 x 5¾ x 4¾

511-B*	MOMENTARY	SPDT	20A 125-250 VAC 1 H.P. 125-250 VAC DOUBLE BREAK MODELS 15A 125-250 VAC ½ H.P. 125 VAC 1 H.P. 250 VAC	Heavy pilot duty 250 VAC max. Painted alert orange. *Add letter "O" for model with oversize "O" Shield. *Add letter "G" for model with treadle gate added. "O" & "G" models are UL & CSA Listed.
511-B2*	MOMENTARY	DPDT		
511-B2A*	MOMENTARY TWO STAGE	BOTH SPDT		
511-B3*	MOMENTARY	SPDT-DB		
511-B4*	MOMENTARY	DPDT-DB		
511-B4A*	MOMENTARY TWO STAGE	BOTH SPDT-DB		

HERCULES



9 x 5¾ x 4¾

MOMENTARY	MAINTAINED			
531-SWH*	571-DWH*	SINGLE STAGE	SPDT	20A 125-250 VAC 1 H.P. 125-250 VAC Heavy pilot duty 250 VAC max. DOUBLE BREAK MODELS 15A 125-250 VAC ½ H.P. 125 VAC 1 H.P. 250 VAC Heavy pilot duty 250 VAC max.
532-SWH*	572-DWH*	SINGLE STAGE	DPDT	
533-SWH*	573-DWH*	SINGLE STAGE	TPDT	
534-SWH*	574-DWH*	TWO STAGE	SPDT	
535-SWH*	575-DWH*	THREE STAGE	SPDT	
536-SWH*	576-DWH*	SINGLE STAGE	SPDT-DB	
537-SWH*	577-DWH*	SINGLE STAGE	DPDT-DB	
538-SWH*	578-DWH*	TWO STAGE	BOTH SPDT-DB	
574-DWHA**		TWO STAGE	BOTH SPDT	
574-DWHD†		TWO STAGE	BOTH SPDT	
578-DWHA**		TWO STAGE	BOTH SPDT-DB	
578-DWHD†		TWO STAGE	BOTH SPDT-DB	

Painted alert orange. Cast iron housing. Wt. — 7¼ lbs.

*Add letter "O" for model with oversize "O" Shield. Replace letter "H" with letter "N" for model without guard. Equivalent "HO" & "N" models are UL & CSA Listed.

**1st stage maintained 2nd stage momentary. †1st stage momentary 2nd stage maintained.

HERCULES POTENTIOMETER



9 x 5¾ x 4¾

2 WATT	5 WATT	12½ WATT
500-N	505-N	512-N
500-AN	505-AN	512-AN
500-H	505-H	512-H
500-AH	505-AH	512-AH
500-HO	505-HO	512-HO
500-AHO	505-AHO	512-AHO

N — No guard
H — Full Shield
HO — "O" Shield
"A" Suffix indicates auxiliary contact.

SPECIFY MAXIMUM RESISTANCE REQUIRED

2 Watt	Available up to 5.0 megohms
5 Watt	Available up to 25000 ohms
12½ Watt	Available up to 15000 ohms

Details on request

VARIOR POTENTIOMETER



4 x 9 x 2

09ASXC	Foot pedal with spring return.
09ARXC	Foot pedal position is maintained by adjustable friction pads.

SPECIFY MAXIMUM RESISTANCE REQUIRED
2 Watt Available up to 5.0 megohms

†Supplied with 6 ft. 18/3 cord without plug. Green lead grounded.

OHMITE® Power Tap Switches


711


111


212


Tandem Assembly


T-10012


Dial

MODEL 711 MINIATURE SWITCH

Single pole, non-shorting selector switch with stationary and movable solid silver alloy contacts. Slow-break, quick-make action achieved with cam and cam follower. Breaks 7 amps at 125 VAC (or 20 VDC); carries 15 amps at 125 VAC/DC. Molded melamine phenolic body 1⅛″ dia. x 13/16″ depth behind panel; ¼″ flatted shaft. Mounts by ¾-32 bushing and hex nut. Model number suffix indicates taps (711-3, 3 taps). Use No. 5103 knob.

Ohmite No.	Net Each 1-4	5-9	10 Up	Ohmite No.	Net Each 1-4	5-9	10 Up
711-3	$10.91	$ 9.28	$7.28	711-8	$13.99	$11.91	$ 9.37
711-4	11.55	9.79	7.71	711-9	14.63	12.43	9.79
711-5	12.16	10.31	8.16	711-10	15.20	12.95	10.20
711-6	12.77	10.87	8.55	711-11	15.76	13.41	10.55
711-7	13.36	11.38	8.98				

CERAMIC HIGH-CURRENT ROTARY SWITCHES

Non-shorting, single pole, rotary, multi-position unit with 2 or 3 in tandem available. **Bodies:** High grade, arc proof ceramic bodies. **Contacts:** Large, solid, silver alloy contacts. **Action:** Positive cam and roller mechanism provides slow-break quick make action. **Shaft:** Insulated by strong ceramic hubs. **Enclosed Mechanism:** Contacts and mechanism are entirely enclosed and protected except Model 111. **Applications:** Switchboards, arc welders, spot welders, battery chargers, motor controls, tapped transformers, X-ray equipment, diathermy equipment, radio transmitters, electrical machine tools, etc. Many variations from the basic switch design to meet your special switch requirements are available on request.

Model	AC Rating	Dia. In.	Shaft Dia.	Depth Behind Panel Single	Double	Triple	Single Unit Wt., Lbs.
111	15 A, 125 V	1¾	¼″	1⅝″	2¾″	.....	.16
212	20 A, 150 V	2¼	⅜″	1⅝″	4¼″	6¼″	.4
312	30 A, 300 V*	3¼	⅜″	2¼″	4⅝″	7″	.75
412	50 A, 300 V*	4¼	⅜″	2¼″	5½″	7⅝″	1.4
608	100 A, 300 V	6	⅝″	3½″	6 13/16″	10⅛″	5

*150 V between taps.

TOTAL ROTATION

No. of Taps	3	4	5	6	7	8	9	10	11	12
Total Rotation*	60°	90°	120°	150°	180°	210°	240°	270°	300°	330°

*For Model 608: 3 taps, 80°; 4 taps, 120°; 5 taps, 160°; 6 taps, 200°; 7 taps, 240°; 8 taps, 280°.

MODEL 111 TAP SWITCHES

No. of Taps	Total Rotation	Single Unit No. 111	Net Each 1-4	5-9	10Up	2 in Tandem No. 111	Net Each 1-2	3 Up
3	60°	-3	$9.63	$8.20	$6.46	-3-T2	$27.21	$23.13
4	90°	-4	10.04	8.54	6.75	-4-T2	28.30	24.03
5	120°	-5	10.40	8.84	6.95	-5-T2	29.00	24.63
6	150°	-6	10.87	9.23	7.25	-6-T2	30.16	25.62
7	180°	-7	11.22	9.55	7.52	-7-T2	31.12	26.45
8	210°	-8	11.75	10.01	7.89	-8-T2	32.80	27.92
9	240°	-9	12.23	10.40	8.20	-9-T2	34.12	29.02
10	270°	-10	12.59	10.70	8.42	-10-T2	35.06	29.80
11	300°	-11	12.91	10.96	8.64	-11-T2	35.82	30.45
Use knob		No. 5150 or 5116				5109 or 5110		

MODEL 212 TAP SWITCHES

No. of Taps	Single Unit No. 212	Net Each 1-4	5-9	10 Up	2in Tandem* Net Each 1-2	3 Up	3in Tandem† Net Each 1-2	3 Up
3	-3	$20.68	$17.56	$13.84	$45.26	$38.48	$67.07	$57.01
4	-4	21.54	18.30	14.43	46.71	39.70	69.29	58.88
5	-5	21.81	18.54	14.61	47.31	40.22	70.02	59.49
6	-6	22.71	19.30	15.20	48.76	41.47	72.15	61.30
7	-7	22.97	19.52	15.39	49.29	41.91	72.85	61.90
8	-8	23.85	20.27	15.96	50.81	43.19	74.98	63.73
9	-9	24.10	20.50	16.15	51.31	43.64	75.70	64.34
10	-10	25.01	21.23	16.75	52.83	44.93	77.89	66.23
11	-11	25.26	21.46	16.93	53.35	45.36	78.54	66.76
12	-12	25.51	21.72	17.12	54.14	46.04	79.91	67.89
Knob	No. 5150 or 5116				5111 or 5112		5111 or 5112	

MODEL 608 TAP SWITCHES

No. of Taps	Single Unit No. 608	Net Each 1-4	5 Up	2 in Tandem No. 608	Net Each 1-2	3 Up	3 in Tandem No. 608	Net Each 1-2	3 Up
3	-3	$63.11	$53.64	-3-T2	146.57	124.54	-3-T3	$222.46	188.09
4	-4	66.89	56.87	-4-T2	153.88	130.79	-4-T3	233.60	198.54
5	-5	70.74	60.12	-5-T2	161.63	137.38	-5-T3	245.03	208.28
6	-6	74.40	63.21	-6-T2	168.99	143.65	-6-T3	256.06	217.63
7	-7	78.18	66.46	-7-T2	176.64	150.12	-7-T3	267.44	227.34
8	-8	83.18	70.73	-8-T2	186.77	158.76	-8-T3	282.44	240.08
Knob	5104 or 5105			5104, 5105, 5115			No. 5115		

MODEL 312 TAP SWITCHES

No. of Taps	Single Unit No. 312	Net Each 1-4	5-9	10 Up	2in Tandem* Net Each 1-2	3 Up	3in Tandem† Net Each 1-2	3 Up
3	-3	$24.30	$20.65	$16.27	$56.95	$48.43	$86.13	$73.68
4	-4	24.80	21.08	16.61	59.00	50.15	89.11	75.76
5	-5	25.20	21.43	16.88	61.53	52.30	92.46	78.59
6	-6	26.16	22.24	17.54	63.48	53.96	95.35	81.05
7	-7	27.30	23.21	18.29	65.81	55.94	98.81	83.99
8	-8	28.25	23.99	18.94	67.86	57.68	101.80	86.50
9	-9	29.38	24.96	19.66	70.18	59.66	105.14	89.36
10	-10	30.31	25.78	20.32	72.15	61.34	108.02	91.82
11	-11	31.45	26.72	21.08	74.48	63.31	111.48	94.75
12	-12	32.20	27.38	21.60	76.18	64.70	113.99	96.93
Knob	No. 5109 or 5110				5111 or 5112		5111 or 5112	

MODEL 412 TAP SWITCHES

No. of Taps	Single Unit No. 412	Net Each 1-4	5-9	10 Up	2in Tandem* Net Each 1-2	3 Up	3in Tandem† Net Each 1-2	3 Up
3	-3	$30.75	$26.12	$20.61	$68.93	$58.58	106.15	$90.23
4	-4	32.73	27.82	21.94	72.97	62.04	112.09	95.26
5	-5	34.45	29.29	23.09	76.69	65.20	117.30	99.71
6	-6	36.43	30.97	24.41	80.59	68.48	123.12	104.66
7	-7	38.14	32.42	25.56	84.12	71.50	128.36	109.11
8	-8	40.13	34.10	26.88	88.00	74.83	134.20	114.05
9	-9	41.85	35.58	28.04	91.56	77.84	139.40	118.50
10	-10	43.84	37.25	29.35	95.52	81.20	145.33	123.54
11	-11	45.54	38.70	30.52	99.06	84.20	150.46	127.89
12	-12	47.35	40.25	31.72	102.52	87.15	155.69	132.33
Knob	No. 5111 or 5112				5111 or 5112		5111 or 5112	

ALL CERAMIC OPEN TYPE TAP SWITCHES

Rated 7 amps max., 3 amps interrupted, at 120 VAC. Less for all DC circuits above 20 V for inductive circuits and high voltages. Body 3¼″ dia. (up to 8 taps, 9–12 taps are 4¼″ dia.) including lugs. Shaft, ¼″ dia. **Knob:** No. 5150 knob recommended. **Shorting Type:** Moving contact bridges closely spaced taps completing a new circuit before breaking the previous one. Switch arm is not indexed and can be left in any position. **Non-Shorting Type:** Positively indexed, moving contact completely disconnects from one tap before contacting succeeding tap.

No. of Contacts	Shorting Type No.	Net Each 1-4	5-9	10Up	Non-Shorting Type No.	Net Each 1-4	5-9	10Up
3	.....	.....	.....	.....	T-503	12.79	10.88	$8.56
4	T-504-S	12.16	10.35	$8.16	T-504	13.86	11.79	9.29
5	T-505-S	13.64	11.62	9.14	T-505	14.91	12.69	9.99
6	T-506-S	14.91	12.69	9.99	T-506	15.98	13.61	10.72
7	T-507-S	16.44	13.94	11.01	T-507	17.06	14.49	11.43
8	T-508-S	17.92	15.23	11.99	T-508	18.13	15.40	12.16
9	T-1009-S	19.19	16.31	12.85	T-1009	19.19	16.31	12.85
10	T-10010-S	20.69	17.58	13.86	T-10010	20.27	17.23	13.58
11	T-10011-S	22.17	18.85	14.87	T-10011	21.35	18.13	14.29
12	T-10012-S	23.45	19.94	15.71	T-10012	22.41	19.03	15.03

TAP SWITCH DIALS

Made of aluminum, etched and enameled black. Bright aluminum dial markings agree with actual number of positions on switch.

No.	Dial Dia.	For Model	For Knob	Net Each 1-9	10-49	50 Up
5002-†	2¾″	111	5109	$2.14	$1.79	$1.29
		212 (Single)	5116			
		312 (Single)	5150			
5003-‡	3¾″	212 (Tandem)	5111	2.30	1.97	1.36
		312 (Tandem)	5152A			
		412				
5004-‡	5½″	608	5104, 5115	2.89	2.47	1.71

TAP SWITCH KNOBS

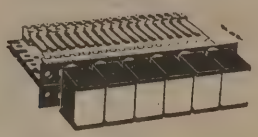
No.	Description	Dia., In. Hole	Knob	Net Each 1-9	10-49	50 Up
5102	Bar knob, 2¼″ long	¼	.....	$ 2.82	$ 2.40	$1.84
5103	Bar knob, 1¼″ long	¼	.....	.82	.69	.53
5104	Handwheel, pointer	3/8	3¼	5.67	4.82	3.79
5105	5104 less pointer	3/8	3¼	5.85	4.97	3.81
5106	Handwheel, pointer	¼	3¼	6.47	5.50	4.20
5107	5106 less pointer	¼	3¼	6.86	5.84	4.47
5109	Finger-grip, pointer	¼	1⅝	3.47	2.95	2.26
5110	5109 less pointer	¼	1⅝	3.43	2.92	2.24
5111	Finger-grip, pointer	¼	2⅛	5.16	4.37	3.36
5112	5111 less pointer	¼	2⅛	5.21	4.43	3.38
5115§	Bar knob, 4¼″ long	3/8	.....	13.21	11.11	8.59
5116	Bar knob, 1¼″ long	¼	.....	1.68	1.43	1.10
5150	Finger-grip	¼	1½	.95	.81	.63
5151	Finger-grip	¼	½	1.80	1.53	1.17
5152A	Handwheel, short pointer	¼	3¼	7.40	6.29	4.80

*For 2 in Tandem type add suffix **-T2** to single unit number (e.g., 212-3-**T2**). †For 3 in Tandem type add suffix **-T3** to single unit number (e.g., 212-3-**T3**). ‡Specify number of positions as a suffix. §Requires pin and tapped hole in shaft.

SWITCHCRAFT® INC. Multi-Switch® Switches

Compact, versatile, high-quality, multiple-station pushbutton switches. Standard functions are available: **Interlock**—actuating a pushbutton automatically restores to normal the pushbutton previously actuated; **Lockout**—prevents operation of more than one pushbutton at a time (this feature is included on all interlock frames); **Push-Lock/Push-Release**—pushbutton locks when depressed and is released when again depressed. Buttons are on ¾" centers.

SERIES 35000 NON-ILLUMINATED LITTEL Multi-Switch



Switches mount on panels up to ⅛" thick. Provide 6PDT switching in 0.6 sq. in. Narrow rectangular silhouette permits stacking in parallel rows on ¾" centers. Only 2⅜" depth behind panel. End brackets have four 6-32 tapped mounting holes. A square black pushbutton is furnished for each station. Plungers made from .050" x .187" steel will accept standard pushbuttons as well as Switchcraft push-buttons in Series 590, A-590, C-590, D-590, E-590, 600 and "Glo-Button" pushbuttons. On 2-C per station switches, each station includes two No. 83P switch stacks; on 4-C per station switches, each station includes four No. 83P switch stacks. The following part numbers cover completely assembled and factory tested switches.

No. of Stations	Interlock with Lock-Out Part No.	Push Lock/Push Release Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99
2-C PER STATION						
4	35041K-206	35047-206	ASK FOR PRICE AND DELIVERY			
6	35061K-206	35067-206				
8	35081K-206	35087-206				
12	35121K-206	35127-206				
4-C PER STATION						
4	35041K-212	35047-212	ASK FOR PRICE AND DELIVERY			
6	35061K-212	35067-212				
8	35081K-212	35087-212				
12	35121K-212	35127-212				

SERIES 37000 SINGLE LAMP ILLUMINATED LITTEL Multi-Switch

Identical in switching functions and characteristics as non-illuminated Series 35000, but feature large rectangular pushbuttons which serve as a color or legend coded panel indicator light which actuates up to 6PDT switching. Switches mount in parallel rows from 1" centers and up. Depth behind panel, 2⅜". Pushbuttons with large transparent clear display screen and white legend insert, can be hot stamped or engraved, are furnished for switching and release stations. On 2-C per station switches, each station includes two No. 83P switch stacks, one No. H-83P lighting stack and one No. H lighting spring. Lighting arrangements such as **"L"**—pushbuttons light in "IN" position; **"M"**—pushbuttons light in "OUT" position; and **"N"**—pushbuttons light in both "IN" and "OUT" positions, can be effected by wiring direct to the No. H-83 and No. H lighting stacks. A single 6 or 28 V lamp can be used at each station (lamps not furnished with switches). The following part numbers cover completely assembled and factory tested switches.

No. of Stations	Interlock with Lock-Out Part No.	Push Lock/Push Release Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99
2-C PER STATION						
4	37041K-1206	37047-1206	ASK FOR PRICE AND DELIVERY			
6	37061K-1206	37067-1206				
8	37081K-1206	37087-1206				
12	37121K-1206	37127-1206				

SERIES 38000 TWIN LAMP ILLUMINATED LITTEL Multi-Switch

Same compact assembly and versatility as Series 37000, except feature twin lamp illumination at each station for redundant or two color, split-face (alternate) lighting. On 2-C per station switches, each station includes three No. H-83P lighting switch stacks and one No. H lighting spring. This arrangement provides up to 3PDT circuitry. One pole is needed for lighting lamps. Accepts standard industry No. 718 lamp flange base lamp, two at each station. The following part numbers cover completely assembled and factory tested switches.

No. of Stations	Interlock with Lock-Out Part No.	Push Lock/Push Release Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99
2-C PER STATION						
4	38041K-1206	38047-1206	ASK FOR PRICE AND DELIVERY			
6	38061K-1206	38067-1206				
8	38081K-1206	38087-1206				
12	38121K-1206	38127-1206				

SERIES 65000 DW Multi-Switch



All standard assemblies have 2-C and/or 4-C switch modules with solder-lug terminals. Integral black pushbutton-actuators at each station to eliminate possible pushbutton loss. Switches mount with two 6-32 screws (not furnished). Depth behind panel: 2-C assemblies, 1⅛"; 4-C assemblies, 1⅛". Overall switch height is 2⅞". The following part numbers cover completed switch assemblies. Only the most commonly used switches are listed.

No. of Stations	Interlock with Lock-Out Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2-C PER STATION						
4	65041K-206	ASK FOR PRICE AND DELIVERY				
6	65061K-206					
8	65081K-206					
12	65121K-206					
4-C PER STATION						
4	65041K-212	ASK FOR PRICE AND DELIVERY				
6	65061K-212					
8	65081K-212					
12	65121K-212					

No. of Stations	Push Lock/Push Release Part No.	All-Lock Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2-C PER STATION							
4	65047-206	65043-206	ASK FOR PRICE AND DELIVERY				
6	65067-206	65063-206					
8	65087-206	65083-206					
12	65127-206	65123-206					
4-C PER STATION							
4	65047-212	65043-212	ASK FOR PRICE AND DELIVERY				
6	65067-212	65063-212					
8	65087-212	65083-212					
12	65127-212	65123-212					

SERIES 67000 DW Multi-Switch

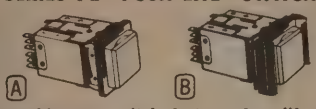
Illuminated Series 67000 switches retain all quality construction and reliable switching of Series 65000 except have large square pushbuttons providing brilliant evenly diffused lighting. Standard white pushbuttons easily snap off actuators for simple front-of panel relamping. Lamp sockets at each station accept a single 6 or 28 V lamp. Lamp socket terminals are separate from switch terminals. Mount with two 6-32 screws (not furnished); two 6-32 tapped studs (stand-offs) are integral with the frame and are used to provide proper positioning of the switch. Depth behind panel: 2-C assemblies, 1½"; 4-C assemblies, 2⅜". Overall height is 1¼".

No. of Stations	Interlock with Lock-Out Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2-C PER STATION						
2	67021K-506	ASK FOR PRICE AND DELIVERY				
4	67041K-506					
6	67061K-506					
8	67081K-506					
12	67121K-506					
4-C PER STATION						
2	67021K-512	ASK FOR PRICE AND DELIVERY				
4	67041K-512					
6	67061K-512					
8	67081K-512					
12	67121K-512					

No. of Stations	Push Lock/Push Release Part No.	All-Lock Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
2-C PER STATION							
2	67027-506	67023-506	ASK FOR PRICE AND DELIVERY				
4	67047-506	67043-506					
6	67067-506	67063-506					
8	67087-506	67083-506					
12	67127-506	67123-506					
4-C PER STATION							
2	67027-512	67023-512	ASK FOR PRICE AND DELIVERY				
4	67047-512	67043-512					
6	67067-512	67063-512					
8	67087-512	67083-512					
12	67127-512	67123-512					

U.S. Pat. No. 3,681,552 Canadian Pat. No. and 949, 109 (June 11, 1974) and 940,179 (Jan. 5, 1974)

SERIES PL "PUSH-LITE" SWITCHES



Enclosed, lighted pushbutton switch features long-life, highly reliable, leaf-spring switching. Available in momentary or push-lock/push-release functions; single or twin lamps; with or without barriers; full or split-face display; 1C to 4C switching; black switch housing. Standard pushbutton color is white. Molded crossbar palladium contacts rated 2 amps, 200 watts max, AC, non-inductive. Mount with clamp-type bracket, no hardware needed. Can be mounted in vertical or horizontal rows and in matrices. Depth behind panel only 1¾". Switches accept 6 or 28 V standard T-1¾ flange base lamps. Specify one lamp or two. Flange type mounting, Fig. A, requires panel cutout 1" x .875"; barrier mounting, Fig. B, requires cutout 1 1/16" x .875".

Part Number	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MOMENTARY ACTION—SINGLE LAMP						
PL-1032-05	SPDT	$10.08	$7.56	$6.93	$6.30	$5.04
PL-1062-05	DPDT	10.28	7.71	7.07	6.43	5.14
PL-1122-05	4PDT	11.12	8.34	7.65	6.95	5.56
PUSH-LOCK/PUSH-RELEASE—SINGLE LAMP						
PL-1037-05	SPDT	$10.60	$7.95	$7.29	$6.63	$5.30
PL-1067-05	DPDT	10.80	8.10	7.43	6.75	5.40
PL-1127-05	4PDT	11.68	8.76	8.03	7.30	5.84
PUSH-LOCK/PUSH-RELEASE—TWIN LAMPS						
PL-2037-05	SPDT	$11.68	$8.76	$8.03	$7.30	$5.84
PL-2067-05	DPDT	11.92	8.94	8.20	7.45	5.96

SERIES PL-9000 INDICATOR

Indicator matches front panel appearance of "Push-Lite" switches but functions only as a lighted indicator. Mounts same as switch; depth behind panel, 1 23/64". Uses same lamps, screen, light divider and mounting barriers as switch. Housing is black, pushbutton is white. Uses one or two lamps.

Part Number	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
PL-9105	Indicator	$2.56	$1.92	$1.76	$1.60	$1.28

PUSHBUTTON/INDICATOR SCREEN

For use with "Push-Lite" switches or indicators as replacement or in-the-field substitution.

PL-512	Clear screen	$0.32	$0.24	$0.22	$0.20	$0.16

LIGHT DIVIDER

For use in "Push-Lite" switches or indicators to separate the illumination from two lamps. Order a light divider for each switch or indicator where split lighting is desired.

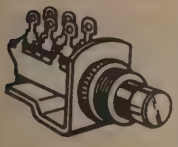
PL-551	Divider	$0.16	$0.12	$0.11	$0.10	$0.08

OPTIONAL MOUNTING BARRIERS

Black plastic barriers can be used to separate "Push-Lite" switches and/or indicators to prevent accidental operation of adjacent switches. Series PL-100 is an end barrier; one is required when switches are mounted adjacently, two are required when switches are mounted individually. Series PL-200 is a center barrier; two are required between switches when mounted adjacently. Fig. B shows "Push-Lite" switch with two end barriers installed.

PL-102	End barrier	$0.16	$0.12	$0.11	$0.10	$0.08
PL-202	Center barrier	.16	.12	.11	.10	.08

SERIES DVR-2000



Recognition of individual switch positions occurs quickly, even from a distance, with this single station non-illuminated pushbutton switch. With plunger in the "OUT" position, a black color band contrasts with the cap color. With plunger in the "IN" position, only the cap color is visible. Silver-plated, copper alloy contacts are rated 0.5 amp DC and 3 amps AC, 125 volts, non-inductive. Threaded bushing mounts in .468" hole in panels up to ¼" thick. Mounting nut is supplied. Mounting centers are ¾" min. Bushing has slot for non-turn mounting. 1-C or 2-C switches require 1 3/32" behind panel; 4-C requires 2 1/32". Solder lug terminals. Color cap assortment kit allows change of cap color; contains cap in red, black, green, blue, white, brown and yellow.

Part Number	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MOMENTARY ACTION—NON-LOCKING						
DVR-2203	1-C	$1.68	$1.26	$1.16	$1.05	$0.84
DVR-2206	2-C	1.96	1.47	1.35	1.23	.98
PUSH-LOCK/PUSH RELEASE						
DVR-2703	1-C	$1.96	$1.47	$1.35	$1.23	$0.98
DVR-2706	2-C	2.16	1.62	1.49	1.35	1.08
COLOR CAP KIT						
K-132	Ass't kit	$0.84	$0.63	$0.578	$0.525	$0.42



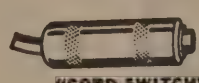
"UNISWITCH"
U.S. Pat. No. 3,446,467



"BOXSWITCH"
U.S. Pat. No. 3,446,467 and 3,419,696



"TINY SWITCH"



"CORD-SWITCH"

"BOX SWITCH" SERIES BXR

Miniature non-illuminated momentary pushbutton switches offer broad switching capabilities in minimum panel space. Switches are 1 1/16" sq. and occupy only 1 1/32" (less panel thickness) behind panel. Molded plastic body protects against dust and dirt and prevents bending of contacts caused by excessive handling. Attractive bezel frames the pushbutton and acts as a built-in escutcheon plate. "Adjusto-Clip" mounting provides snap-in, front of panel mounting in panels from ¾" to 9/32" thick in .615" sq. holes. **Series BXR-01**, red button; **BXR-02**, black button; **BXR-03**, green button; **BXR-05**, white button. Contacts rated 250 mA, 30 watts max. AC non-inductive. Available in solder lug/quick-connect (part numbers listed) or in PC terminals—add suffix **PC** to part number, same prices apply.

Part Number	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
BXR-__-6	DPDT	$5.10	$4.08	$3.06	$2.81	$2.55
BXR-__-6	SPDT	5.10	4.08	3.06	2.81	2.55

"UNISWITCH" SWITCHES

Low cost, momentary action pushbutton switches only 1 1/16" sq. mount from front in panel cutout .615" sq. Contacts rated at 250 mA, 30 watts max. AC non-inductive. Series US is non-illuminated; Series LUS illuminated by one 6 V, ½ watt, T-1¾ bi-pin lamp (not supplied). Lamps replaced from front of panel. Switches incorporate an "Adjusto-Clip" which allows simple snap-in mounting in panels from 1 3/16" to 1 7/64" thick. Depth behind panel only 1 5/16" max. Available in SPST-NO type. PC terminal type mount in single- or double-sided boards. Solder/quick connect type accept AMP Series 110 receptacles. Specify color by changing **-XX** in Part No. to **-01** for red, **-03** for green, **-04** for blue, **-05** for white or **-08** for yellow.

Part No.	Terminals	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
LUS-XX-1	Solder/screw	$1.92	$1.44	$1.32	$1.20	$0.96
US-XX-1	Solder/screw	1.92	1.44	1.32	1.20	.96
LUS-XX-1PC	P.C.	1.92	1.44	1.32	1.20	.96
US-XX-1PC	P.C.	1.92	1.44	1.32	1.20	.96
LUS-XX-1ST	Solder/QC	1.92	1.44	1.32	1.20	.96
US-XX-1ST	Solder/QC	1.92	1.44	1.32	1.20	.96

"TINY SWITCH"

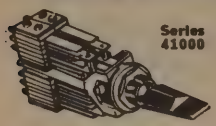
Sub-miniature pushbutton switches for limited space applications. **Series 950**, red button; **Series 960**, black button. Integral contacts suitable for low level circuits where contact resistance is not important. Mount in ¼" hole in panels up to 9/32" thick; depth behind panel 3/8".

Part No.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
951	SPST-NO	$1.36	$1.02	$0.935	$0.85	$0.68
953	SPDT	1.68	1.26	1.16	1.05	.84
961	SPST-NO	1.36	1.02	.935	.85	.68
962	SPST-NC	1.36	1.02	.935	.85	.68
963	SPDT	1.68	1.26	1.16	1.05	.84

"CORD-SWITCH"

Cord-mounted switch for remote control applications. Momentary action. Rated at 250 mA, 30 watts, AC non-inductive. Bright nickel-plated brass housing, 1 1/16" dia. x 2 3/16" long.

Part Number	Action	Button Color	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
E-903	SPDT	Red	$3.00	$2.25	$2.06	$1.88	$1.50
E-913	SPDT	Black	3.00	2.25	2.06	1.88	1.50

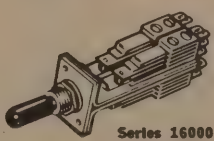



Series 3000


Series 84000

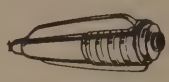

Series 13000

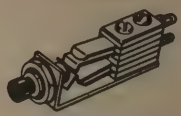

Series 6000


Series 16000


FEATHER-LEVER


HI-D® Switch


"CORDETTE" SWITCH


"TF-SWITCH"

SERIES 41000 "LT SWITCH"

U.S. Pat. No. 3,433,906 Canadian Pat. No. 850,234 (Aug. 25, 1970)

Small, high quality, telephone type lever switch. Two or three position types with positive locking and/or non-locking action. Special damping block guards against transient leaf bounce. "Can't-Cheat" detent guide prevents accidental actuator by-pass of switching positions. Welded crossbar palladium contacts rated at 2 amps, 200 watts, AC, non-inductive. Mount on 2³⁄₃₂" centers in a 1⁵⁄₃₂" dia. hole in panels up to ¼" thick. Require only 2⅛" depth behind panel. Bushing is slotted for non-turn mounting.

Part No.*	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
41203	SPDT	$5.72	$4.29	$3.93	$3.58	$2.86
41206	DPDT	7.12	5.34	4.90	4.45	3.56
41212	4PDT	9.64	7.23	6.63	6.03	4.82
THREE POSITION TYPES						
41306	SPDT	$ 7.12	$ 5.34	$4.90	$4.45	$3.56
41312	DPDT	9.64	7.23	6.63	6.03	4.82
41324	4PDT	14.20	10.65	9.76	8.88	7.10

*To order locking type, add suffix "L" to part number; same prices apply.

SERIES 84000 "LEVER-LITE" III SWITCHES

U.S. Pat. No. 3,727,020 and 3,821,533; Canadian Pat. No. 972,791 (Aug. 12, 1975) and 990,330 (June 1, 1976)

Illuminated lever switches available in two and three positions with locking, non-locking and talk-listen functions. Silver-plated bronze springs with welded crossbar palladium contacts rated at 2 amps, 200 watts, AC, non-inductive. Illumination is multi-color. Two position switches have amber color in neutral position and green in down position. Three position switches have red in up position, amber in neutral position and green in down position. Switch uses one standard T-1¾ flange base lamp (not supplied). Switch is mounted, relamped (without tools), terminated, and removed from front of panel. Color filters are changeable from front. Solder lug/quick-connect terminals. Mounting hole is ⅞" x 1½". Depth behind panel is 1¹³⁄₁₆".

84206	DPDT	$ 9.64	$7.23	$6.63	$6.03	$4.82
84312	DPDT♯	11.92	8.94	8.20	7.45	5.96

*To order locking type, add suffix "L" to part number; same prices apply. ♯Three position type, action per section.

"TELEVER" SWITCHES

Rugged telephone type lever switches available in two and three positions, locking and non-locking types. Nylon rollers on the lever actuate the special nickel silver springs, providing smooth action. Welded crossbar palladium contacts are rated 2 amps, 200 watts, AC, non-inductive. Series 6000 mounts with four 3-48 screws on 1⁷⁄₃₂" x 1³⁄₁₆" centers; Series 16000 mounts in ½" dia. hole in panels up to ¼" thick. Supplied with black insulated knob. Tinned solder lug terminals.

Part No.*	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
16006	DPDT	$7.20	$5.40	$4.95	$4.50	$3.60
160012	4PDT	9.76	7.32	6.71	6.10	4.88
THREE POSITION TYPES						
160312	DPDT	$9.76	$7.32	$6.71	$6.10	$4.88

*To order locking type, add suffix "L" to part number; same prices apply.

"LEV-R" SWITCHES

Small lever action switches in two and three position types, locking and non-locking action. Require half the space usually needed for a lever switch. Frame bushing and shaft are nickel plated brass. Supplied with locknut and screw-on black knob. Fine silver contacts rated 3 amps, 300 watts, AC, non-inductive. Non-locking types have spring return. Series 3000 mount in panels up to 3⁄32" thick; Series 13000 mount in panels up to ¼" thick. Both Series are ⅜" wide, require 2¼" behind panel, and mount in ½" dia. hole.

Part No.*	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO POSITION TYPES						
3001	SPST-NO	$3.68	$2.72	$2.53	$2.30	$1.84
3003	SPDT	4.20	3.15	2.89	2.63	2.10
3006	DPDT-NO	5.76	4.32	3.96	3.60	2.88
13001	SPST-NO	3.84	2.88	2.64	2.40	1.92
13006	DPDT	5.84	4.38	4.02	3.65	2.92
THREE POSITION TYPES						
3034	SPST	$4.48	$3.36	$3.08	$2.80	$2.24
3037	DPDT†	6.00	4.50	4.13	3.75	3.00
30312	DPDT	8.28	6.21	5.69	5.18	4.14
13036	SPDT	5.84	4.38	4.02	3.65	2.92
130312	DPDT	8.40	6.30	5.78	5.25	4.20

*To order locking type, add suffix "L" to part number; same prices apply. †Center off.

"FEATHER-LEVER" SWITCHES

Miniature lever switches. Lightweight and compact. Available in two and three positions, locking and non-locking types. Nylon roller on actuator gives smooth, even operation. Nickel silver springs and fine silver contacts rated 2 amps, 200 watts, AC, non-inductive. Supplied with black plastic, push-on knob. Bushing mounts in ⅜" dia. hole in panels up to ⅛" thick on ⅞" centers. Requires 1⁵⁄₃₂" depth behind panel. Supplied with locknut.

Part No.*	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
29206	DPDT	$5.76	$4.32	$3.96	$3.60	$2.88
29306	SPDT♯	5.92	4.44	4.07	3.70	2.96
29312	DPDT♯	7.08	5.31	4.87	4.43	3.54

*To order locking type, add suffix "L" to part number; same prices apply. ♯Three position type, action per section.

HI-D SWITCH PUSHBUTTON SWITCHES

Small, momentary action switches for mounting singly or in rows or arrays on ⅝" centers. Contacts, 250 mA, 30 W, max. AC, non-inductive load. Mounts in ⅜" dia. hole in panels up to ⅛" thick. Mtg. hardware supplied. Series H-100 has red pushbutton; Series H-200 has black pushbutton.

H-101	SPST-NO	$1.56	$1.17	$1.07	$0.975	$0.78
H-201	SPST-NO	1.56	1.17	1.07	.975	.78
H-203	SPDT	1.76	1.32	1.21	1.10	.88

"TF-SWITCH" PUSHBUTTON SWITCHES

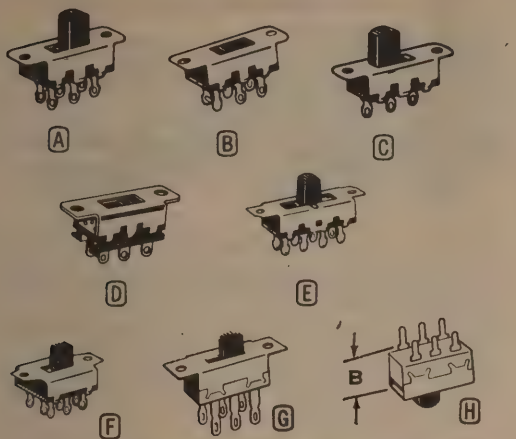
Rugged, tiny frame design is recommended for low level circuits where contact resistance is unimportant. Requires only 1¹⁵⁄₃₂" behind panel. Action is momentary (No. 976) or push-lock/pull-release (No. 976L). Button is black; mounts in ¼" dia. hole.

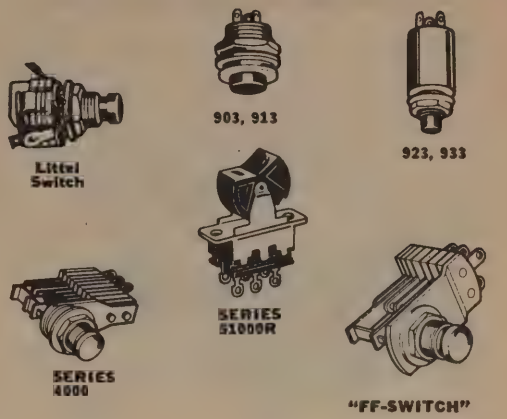
Part No.	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
976	2-C	$2.68	$2.01	$1.84	$1.68	$1.34
976L	2-C	3.08	2.31	2.12	1.93	1.54

"CORDETTE" PENDANT SWITCHES

Small, lightweight pendant, momentary action (cord) switch. One-piece gray molded body contrasts with black pushbutton. Integral brass, hard gold contacts are rated 0.5 A, 50 W max. AC, non-inductive load (not recommended for high voltage circuits). Switching is SPST-NO (1-A). Supplied with 6', 2-conductor, unshielded gray cable molded to body. Overall dim., 1⅛" w. x 2¹⁵⁄₁₆" lg. (less cable).

Part No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
921K	$7.36	$5.52	$5.06	$4.60	$3.68





"DOUBLE-WIPE" SLIDE SWITCHES

Precision switches use special "U" shaped bifurcated contacts to assure continuous wiping action. Contacts rated at 0.5 amp DC, 3 amps AC, 125 V, non-inductive. Solder lug terminals. Most switches furnished with black 1½" knob and .140" dia. mounting holes. U.L. approved.

SERIES 46000R AND 46000E TWO- AND THREE-POSITION TYPES

All switches have shutter type dust cover to prevent dust and dirt from contaminating contacts. Three position types have positive center detent action. Switches have non-shorting contacts. Part Nos. ending in **LFR** and **LFE** have flush actuators. Part Nos. ending in **LFE** feature glass-filled nylon terminal boards.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
46201MR	A	SPST-NO	$0.96	$0.72	$0.66	$0.60	$0.48
46202LR	A	SPST	.64	.48	.44	.40	.32
46203LR	A	SPDT	.68	.51	.468	.425	.34
46203MR	A	SPDT	1.00	.75	.688	.625	.50
46204LR	A	DPST-NO	.72	.54	.495	.45	.36
46204MR	A	DPST-NO	1.04	.78	.715	.65	.52
46206LFE	B	DPDT	1.08	.81	.743	.675	.54
46206LFR	B	DPDT	1.00	.75	.688	.625	.50
46206LR	A	DPDT	.76	.57	.523	.475	.38
46206MR	C	DPDT†	1.12	.84	.77	.70	.56
46256LFE	D	DPDT	1.12	.84	.77	.70	.56
46256LFR	B	DPDT	1.04	.78	.715	.65	.52
46311LDR*	E	SPTT	1.00	.75	.688	.625	.50
46313LDR*	E	DPTT	1.04	.78	.715	.65	.52
46313MDR	E	DPTT	1.12	.84	.77	.70	.56

†Momentary action; all others locking. *Three position type; locking in all positions.

SERIES 50000 TWO-POSITION TYPES

Non-shorting contacts.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
50208L	F	3PDT	$1.44	$1.08	$0.99	$0.90	$0.72
50209M	F	3PDT	1.60	1.20	1.10	1.00	.80
50212L†	F	3PDT	1.48	1.11	1.02	.925	.74

"TINI-SLIDE" SUBMINIATURE SLIDE SWITCHES

Subminiature locking slide switches have non-shorting "double-wipe" contacts with special "lifting" action for extended life. Contacts are rated 0.5 A, 125 V, AC/DC, non-inductive load. Minimum switch life is 6000 cycles. Black knob has serrated crown for easy operation. Nos. 56206L1 and 56313L1 have .295" lg. solder lugs. Nos. 56206L2 and 56313L2 have shorter .146" lg. solder lugs. Nos. C56206L1 and C56313L1 have "B" dimensions of .573"; Nos. C56206L2 and C56313L2 have "B" dimensions of .352". Plastic parts are self-extnguishing per UL and ASTM specs.

Part No.	Fig.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
56206L1	G	DPDT	$1.16	$0.87	$0.798	$0.725	$0.58
56206L2	G	DPDT	1.16	.87	.798	.725	.58
56313L1	G	DPTT	1.64	1.23	1.13	1.03	.82
56313L2	G	DPTT	1.64	1.23	1.13	1.03	.82
C56206L1	H	DPDT	1.16	.87	.798	.725	.58
C56206L2	H	DPDT	1.16	.87	.798	.725	.58
C56313L1	H	DPTT	1.64	1.23	1.13	1.03	.82
C56313L2	H	DPTT	1.64	1.23	1.13	1.03	.82

Littel-Switch® SWITCHES

Tiny, momentary contact, pushbutton switches with rugged, dependable action. All contacts insulated from panel bushing with interlocking phenolic washers. Springs are of nickel silver, recommended only for low-level circuits where contact resistance is not important. One-piece plastic button and shaft in red, **Series 100**, or black, **Series 200.** Mount in ⅜" hole in panels up to ¼" thick. "S" in Part No. denotes fine silver contacts rated at 3 A, 300 W max. AC, non-inductive.

Part No.	Color	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
101	Red	1-A	$1.36	$1.02	$0.935	$0.85	$0.68
201	Black	1-A	1.36	1.02	.935	.85	.68
202	Black	1-B	1.36	1.02	.935	.85	.68
103	Red	1-C	1.64	1.23	1.13	1.03	.82
203	Black	1-C	1.64	1.23	1.13	1.03	.82
203S	Black	1-C	2.72	2.04	1.87	1.70	1.36

"BUTTON-SWITCH" SWITCHES

Unusually small, momentary action pushbutton switches in metal housing. Series 903 for back-of-panel mounting in 1⅓2" hole in panels up to 1¾4" thick. Series 923, 933 for front-of-panel mounting in ¼" hole in panels up to 5⁄32" thick. Rated 250 mA, 30 watts, AC, non-inductive.

903	Red	1-C	$1.80	$1.35	$1.24	$1.13	$0.90
913	Black	1-C	1.80	1.35	1.24	1.13	.90
913D	Black	1-D	1.80	1.35	1.24	1.13	.90
923	Red	1-C	1.92	1.44	1.32	1.20	.96
933	Black	1-C	1.92	1.44	1.32	1.20	.96

NON-LOCKING FLAT FRAME SWITCHES

Flat frame construction provides multiple pole switching with minimum depth behind panel. Ideal for use in ultra-compact equipment. Only ½" wide and 1¾" long. Mounts in ⅜" hole in panels up to 5⁄32" thick. Fine silver contacts rated 3 amps, 300 watts, AC, non-inductive. One piece black button and shaft.

Part No.	Action	Form	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
4004	DPST-NO	2-A	$2.72	$2.04	$1.87	$1.70	$1.36
4006	DPDT	2-C	3.88	2.91	2.67	2.43	1.94

SERIES 51000R ROCKER SWITCHES

Compact two-position locking rocker switches offer same quality and dependability as standard slide switches. Black rocker knobs have legend area and serrations on operating faces. U.L. listed. "S" in Part No. denotes fine silver contacts rated at 3 A, 300 W max. AC, non-inductive.

Part No.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
51204LR	DPST	$1.36	$1.02	$0.935	$0.85	$0.68
51206LR	DPDT	1.40	1.05	.963	.875	.70
51206MR†	DPDT	1.52	1.14	1.05	.95	.76

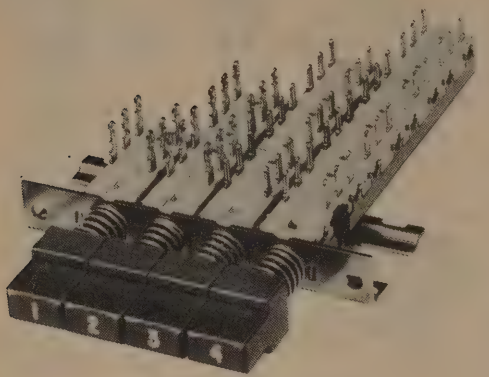
†Momentary action; all others locking.

"FF-SWITCH" PUSHBUTTON SWITCH

Rugged, flat frame construction; needs only ⅛" behind panel. Contacts are fine silver rated at 3 A, 300 W max. AC non-inductive load. Black pushbutton; mounts in single ⅜" dia. hole.

Part No.	Action	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
1006	DPDT	$3.88	$2.91	$2.67	$2.43	$1.94

TINI DW MULTI-SWITCH® SERIES 9000



Subminiature, non-illuminated, multiple-station switch on 10 and 15 mm centers. Produced with a completely proven design concept. Dependable, low-cost Series 90000 Tini Multi-Switch switches offer a full set of mechanical functions and the exclusive "snap-slide" switching technique. Applications include analog and digital computers, analyzers, transmitters and receivers, intercoms, numerical control, ground support systems, scientific instruments, home entertainment systems, appliances, and a multitude of other critical control-panel switching tasks where size, low cost and rugged reliability are prime engineering requisites. Tini-DW Multi-Switch switches offer up to 18 stations in a single row, each having up to 8-C (8PDT) switching.

FUNCTIONS AND FEATURES

- 10 and 15 mm centers.
- Interlock, all lock, non-lock, push-lock/push-release and lock-out mechanical functions.
- Large, attractive, non-illuminated pushbuttons in colors.
- Exclusive "Snap-Slide" switching with ultrareliable, bifurcated, silver-plated contacts.
- Up to 8-c switching per station.
- Full 0.5A, 125 volt AC or DC rating.
- Choice of standard solder lugs or printed circuit terminals.
- 11 amp high-current switching at any station.
- Versatile, special order options: intermixed mechanical functions, pushbutton legends, gold-plated contacts and several optional terminal styles.

TERMINALS

Both solder lugs and printed circuit (P.C.) terminals are available as standard. For easy wiring, terminals are all located on one side of the switch.

Solder Lugs: Rugged, .296" long lugs have both wrap-around notches and holes for versatile, convenient wiring.

Printed Circuit Terminals: Strong, .214" long terminals are designed for P.C. boards and multi-layers. Stand-off shoulders on each terminal assure stable mounting and adequate clearance between board and module. Dip, wave or flow soldering may be used with excellent results.

STANDARD ASSEMBLIES

Tini DW Multi-Switch switches are available in single-row assemblies with the following features:

1. **Mechanical functions:** Interlock (with or without lock-out), all-lock, non-lock and push-lock/push-release.
2. One to 18 stations (12 max., interlock with lock-out).
3. Solder lugs or printed circuit terminals.
4. **Switching:** 2-c, 4-c, 6-c or 8-c.

STATIONS AND MECHANICAL FUNCTIONS

2-C SWITCHING—SOLDER LUG TERMINALS

Number of Stations	Mechanical Functions: Interlock With Lock-Out	Non-Lock Without Lock-Out	All-Lock Without Lock-Out	Push-Lock/ Push-Release Without Lock-Out
1	.....	90012B06	.....	90017B06
2*	90024B06	90022B06	90023B06	90027B06
3	90034B06	90032B06	90033B06	90037B06
4*	90044B06	90042B06	90043B06	90047B06
5	90054B06	90052B06	90053B06	90057B06
6*	90064B06	90062B06	90063B06	90067B06
7	90074B06	90072B06	90073B06	90077B06
8*	90084B06	90082B06	90083B06	90087B06
9	90094B06	90092B06	90093B06	90097B06
10*	90104B06	90102B06	90103B06	90107B06
11	90114B06	90112B06	90113B06	90117B06
12*	90124B06	90122B06	90123B06	90127B06
13	†	90132B06	†	90137B06
14	†	90142B06	†	90147B06
15	†	90152B06	†	90157B06
16	†	90162B06	†	90167B06
17	†	90172B06	†	90177B06
18	†	90182B06	†	90187B06

2-C SWITCHING—PRINTED CIRCUIT TERMINALS

Number of Stations	Mechanical Functions: Interlock With Lock-Out	Non-Lock Without Lock-Out	All-Lock Without Lock-Out	Push-Lock/ Push-Release Without Lock-Out
1	.....	90012C06	.....	90017C06
2*	90024C06	90022C06	90023C06	90027C06
3	90034C06	90032C06	90033C06	90037C06
4*	90044C06	90042C06	90043C06	90047C06
5	90054C06	90052C06	90053C06	90057C06
6*	90064C06	90062C06	90063C06	90067C06
7	90074C06	90072C06	90073C06	90077C06
8*	90084C06	90082C06	90083C06	90087C06
9	90094C06	90092C06	90093C06	90097C06
10*	90104C06	90102C06	90103C06	90107C06
11	90114C06	90112C06	90113C06	90117C06
12*	90124C06	90122C06	90123C06	90127C06
13	†	90132C06	†	90137C06
14	†	90142C06	†	90147C06
15	†	90152C06	†	90157C06
16	†	90162C06	†	90167C06
17	†	90172C06	†	90177C06
18	†	90182C06	†	90187C06

4-C SWITCHING—SOLDER LUG TERMINALS

Number of Stations	Mechanical Functions: Interlock With Lock-Out	Non-Lock Without Lock-Out	All-Lock Without Lock-Out	Push-Lock/ Push-Release Without Lock-Out
1	.....	90012B12	.....	90017B12
2*	90024B12	90022B12	90023B12	90027B12
3	90034B12	90032B12	90033B12	90037B12
4*	90044B12	90042B12	90043B12	90047B12
5	90054B12	90052B12	90053B12	90057B12
6*	90064B12	90062B12	90063B12	90067B12
7	90074B12	90072B12	90073B12	90077B12
8*	90084B12	90082B12	90083B12	90087B12
9	90094B12	90092B12	90093B12	90097B12
10*	90104B12	90102B12	90103B12	90107B12
11	90114B12	90112B12	90113B12	90117B12
12*	90124B12	90122B12	90123B12	90127B12
13	†	90132B12	†	90137B12
14	†	90142B12	†	90147B12
15	†	90152B12	†	90157B12
16	†	90162B12	†	90167B12
17	†	90172B12	†	90177B12
18	†	90182B12	†	90187B12

4-C SWITCHING—PRINTED CIRCUIT TERMINALS

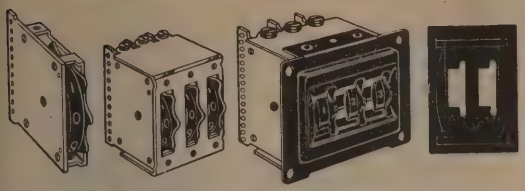
Number of Stations	Mechanical Functions: Interlock With Lock-Out	Non-Lock Without Lock-Out	All-Lock Without Lock-Out	Push-Lock/ Push-Release Without Lock-Out
1	.....	90012C12	.....	90017C12
2*	90024C12	90022C12	90023C12	90027C12
3	90034C12	90032C12	90033C12	90037C12
4*	90044C12	90042C12	90043C12	90047C12
5	90054C12	90052C12	90053C12	90057C12
6*	90064C12	90062C12	90063C12	90067C12
7	90074C12	90072C12	90073C12	90077C12
8*	90084C12	90082C12	90083C12	90087C12
9	90094C12	90092C12	90093C12	90097C12
10*	90104C12	90102C12	90103C12	90107C12
11	90114C12	90112C12	90113C12	90117C12
12*	90124C12	90122C12	90123C12	90127C12
13	†	90132C12	†	90137C12
14	†	90142C12	†	90147C12
15	†	90152C12	†	90157C12
16	†	90162C12	†	90167C12
17	†	90172C12	†	90177C12
18	†	90182C12	†	90187C12

*Switch assemblies (without pushbuttons) available from stock.
†Interlock with lock-out and all-lock versions are standard with 2 thru 12 stations; interlock without lock-out available with 2 thru 18 stations on special order.

ASK FOR DETAILS OF PRICE AND DELIVERY

Thumbwheel Switches

SERIES MM THUMBWHEEL SWITCHES



Field-proven Series MM switches are economical, versatile and extra rugged, rear mount switches, offering 1/2" centers, 1-20 stations, wide choice of output codes, 8, 10, 12 and 16 position modules and large numerals on black matte thumbwheel. Switches are designed for programming all types of data processing, numerical machine control, manufacturing process control and other equipment requiring easily-changed digital inputs, such as octal, decimal, hexidecimal, BCD, BCO and other codes. Modules have rugged frames; complete assemblies also have heavy "U" frames for stable, "non-bowing" mount. Pierced terminals at rear of modules. All switches 100% tested for mechanical, hi-pot and continuity. One million detent operations typical. Contacts switch 125 mA at 115 VAC or 28 VDC. Individual modules can be replaced without removing switch assembly. Switches can be specified 3 ways: 1, individual modules; 2, multi-station assemblies without bezel; 3, multi-station assemblies with black matte-finish bezel. Also a handsome trim escutcheon can be supplied for assemblies without bezels.

ORDERING INFORMATION

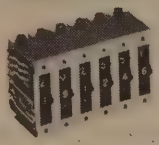
Order individual modules from table at right. To order complete assemblies (with or without bezels) and escutcheons, ask for Switchcraft New Product Bulletin No. 325.

MM SERIES PRICING

Part No.	Positions	Output Code	Nomenclature
MM-A-AA	8	Decimal, single pole	0-7
MM-A-BB	10	Decimal, single pole	0-9
MM-B-BF	10	Decimal, single pole*	+, —
MM-B-BG	10	Decimal, single pole*	0, 1
MM-F-BB	10	BCD with 0 bit	0-9
MM-V-DD	16	Hexidecimal	0-15
MM-V-DE	16	Hexidecimal	0-9, A-F
MM-W-DD	16	Hexidecimal†	0-15
MM-W-DE	16	Hexidecimal†	0-9, A-F

*2-position repeat. †Complement only.

SERIES MM-2 THUMBWHEEL SWITCHES



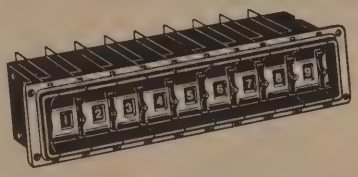
Series MM-2 switches are a companion series to Series MM switches . . . and offer: Assemblies can be specified with 1-20 stations, excellent choice of output codes, 8, 10, 12 and 16 position modules, choice of individual modules and switch assemblies with or without bezels and trim escutcheons. Recommended for Aftermarket and Retrofit of machine control, data processing and manufacturing process control and other equipment requiring programmable and easily-changeable digital inputs. For complete ordering information, ask for Switchcraft New Product Bulletin No. 336.

SERIES LTS AND LTU LITTEL THUMBWHEEL MINIATURE THUMBWHEEL SWITCHES

Fit panel opening for replacement of most miniature thumbwheel switches. Provide compact, convenient rear mounting on 1/2" centers, 1-20 stations, popular output codes, 8, 10 and 12 positions, black matte or black gloss finish, integral bezel and large, easy-to-read numerals. Applications, contact ratings and 100% tests are the same as for Series MM switches (listed above). Standard output codes are decimal and BCD. Switches have field-proven design and meet applicable portions of MIL-S-22710. Littel Thumbwheel switches are available as complete assemblies only. Table below lists only the most popular types; for additional switches, ask for Switchcraft New Product Bulletin No. 327.

SERIES LTS

Environmentally sealed against dust, dirt and other contaminants. Windows (sonically welded) seal each numeral on front of switch. Gasket provides compression seal around bezel (against rear of mounting surface), and RTV sealing compound seals rear of each module around PC board.



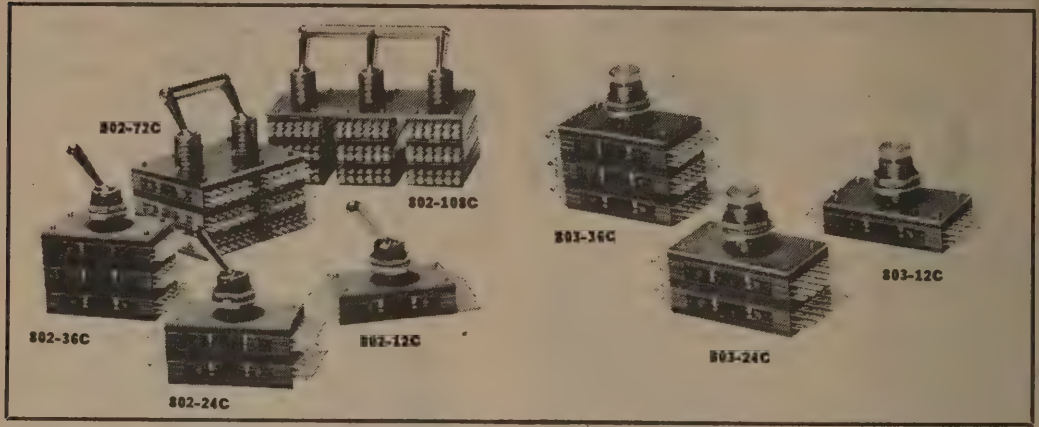
SERIES LTU

Same construction as Series LTS, except without full sealing features (windows, O-rings, gaskets and RTV compound).

Stations	Output Code	Module Positions	Nomenclature	Black Matte	Black Gloss	Black Matte	Black Gloss
	Decimal output, 1 pole	8	0-7	LTS1-A-AA-02	LTS2-A-AA-02	LTU1-A-AA-02	LTU2-A-AA-02
		10	0-9	LTS1-A-BB-02	LTS2-A-BB-02	LTU1-A-BB-02	LTU2-A-BB-02
2	Decimal output, 1 pole	10	+, —	LTS1-B-BF-02	LTS2-B-BF-02	LTU1-B-BF-02	LTU2-B-BF-02
	2 position, repeat	10	0, 1	LTS1-B-BG-02	LTS2-B-BG-02	LTU1-B-BG-02	LTU2-B-BG-02
	BCD with 0 bit	10	0-9	LTS1-F-BB-02	LTS2-F-BB-02	LTU1-F-BB-02	LTU2-F-BB-02
	Decimal output, 1 pole	8	0-7	LTS1-A-AA-04	LTS2-A-AA-04	LTU1-A-AA-04	LTU2-A-AA-04
		10	0-9	LTS1-A-BB-04	LTS2-A-BB-04	LTU1-A-BB-04	LTU2-A-BB-04
4	Decimal output, 1 pole	10	+, —	LTS1-B-BF-04	LTS2-B-BF-04	LTU1-B-BF-04	LTU2-B-BF-04
	2 position, repeat	10	0, 1	LTS1-B-BG-04	LTS2-B-BG-04	LTU1-B-BG-04	LTU2-B-BG-04
	BCD with 0 bit	10	0-9	LTS1-F-BB-04	LTS2-F-BB-04	LTU1-F-BB-04	LTU2-F-BB-04
	Decimal output, 1 pole	8	0-7	LTS1-A-AA-06	LTS2-A-AA-06	LTU1-A-AA-06	LTU2-A-AA-06
		10	0-9	LTS1-A-BB-06	LTS2-A-BB-06	LTU1-A-BB-06	LTU2-A-BB-06
6	Decimal output, 1pole	10	+, —	LTS1-B-BF-06	LTS2-B-BF-06	LTU1-B-BF-06	LTU2-B-BF-06
	2 position, repeat	10	0, 1	LTS1-B-BG-06	LTS2-B-BG-06	LTU1-B-BG-06	LTU2-B-BG-06
	BCD with 0 bit	10	0-9	LTS1-F-BB-06	LTS2-F-BB-06	LTU1-F-BB-06	LTU2-F-BB-06
	Decimal output	8	0-7	LTS1-A-AA-08	LTS2-A-AA-08	LTU1-A-AA-08	LTU2-A-AA-08
		10	0-9	LTS1-A-BB-08	LTS2-A-BB-08	LTU1-A-BB-08	LTU2-A-BB-08
8	Decimal output, 1 pole	10	+, —	LTS1-B-BF-08	LTS2-B-BF-08	LTU1-B-BF-08	LTU2-B-BF-08
	2 position, repeat	10	0, 1	LTS1-B-BG-08	LTS2-B-BG-08	LTU1-B-BG-08	LTU2-B-BG-08
	BCD with 0 bit	10	0-9	LTS1-F-BB-08	LTS2-F-BB-08	LTU1-F-BB-08	LTU2-F-BB-08
	Decimal output, 1 pole	8	0-7	LTS1-A-AA-10	LTS2-A-AA-10	LTU1-A-AA-10	LTU2-A-AA-10
		10	0-9	LTS1-A-BB-10	LTS2-A-BB-10	LTU1-A-BB-10	LTU2-A-BB-10
10	Decimal output, 1 pole	10	+, —	LTS1-B-BF-10	LTS2-B-BF-10	LTU1-B-BF-10	LTU2-B-BF-10
	2 position, repeat	10	0, 1	LTS1-B-BG-10	LTS2-B-BG-10	LTU1-B-BG-10	LTU2-B-BG-10
	BCD with 0 bit	10	0-9	LTS1-F-BB-10	LTS2-F-BB-10	LTU1-F-BB-10	LTU2-F-BB-10

ASK FOR DETAILS OF PRICE AND DELIVERY

MULTIPOLE TOGGLE AND PUSHBUTTON SWITCHES



SERIES 802 AND 902 TOGGLE SWITCHES

Switch from 4 to 144 circuits with one T-Bar toggle switch. Available in configurations of 4, 8, 12, 24, 36, 48, 72, 108 and 144 poles. Series 902 is specially designed for low level applications.

SERIES 803 MOMENTARY PUSHBUTTON SWITCHES

Switch from 4 to 36 circuits with one T-Bar momentary pushbutton switch. Available in configurations of 4, 8, 12, 24 and 36 poles.

SWITCH SPECIFICATIONS

Contacts: Series 800, general purpose gold plated; Series 900, low-level bifurcated gold plated.

Contact Rating: Series 800, 5 amps maximum resistive to 150 watts; Series 900, 1 amp maximum resistive to 50 watts.

Life Expectancy: Series 800, 50,000 cycles at 20 CPM; Series 900, 50,000 cycles.

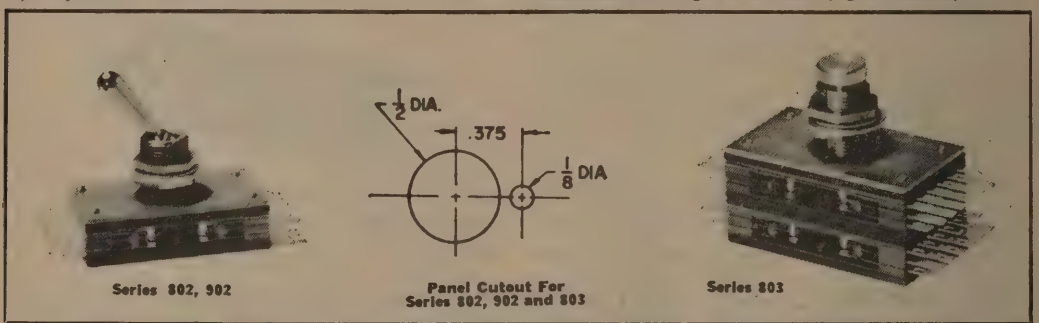
Contact Resistance: 20 milliohms typical.

Ambient Temperatures: −55° C to +85° C.

Terminals: Mate with T-Bar connectors.

Dielectric Strength: 1000 volts rms at 60 Hz (higher available).

Insulation: 5000 megohms minimum (higher available).



Series 802, 902

Panel Cutout For Series 802, 902 and 803

Series 803

SERIES 802 AND 902 PRICING

SERIES 802 TOGGLE SWITCHES

T-Bar Number	Net Each, Lots of 1-24	25-49	50-74	75-99	100-249
802-4C	$ 14.05	$ 13.35	$ 12.70	$ 12.05	$ 10.05
802-8C	17.30	16.45	15.60	14.85	12.35
802-12C	19.10	18.15	17.25	16.35	13.65
802-24C	37.30	35.45	33.70	31.95	26.65
802-36C	52.10	49.50	47.05	44.65	37.25
802-48C	72.80	69.15	65.75	62.40	52.05
802-72C	109.65	104.15	99.00	93.95	78.40
802-108C	165.00	156.75	149.00	141.40	118.00
802-144C	240.00	228.00	216.70	205.70	171.60

SERIES 803 PUSHBUTTON SWITCHES

803-4C	$ 9.00	$ 8.55	$ 8.15	$ 7.70	$ 6.45
803-8C	12.00	11.40	10.85	10.30	8.60
803-12C	13.55	12.85	12.25	11.60	9.70
803-24C	28.90	27.45	26.10	24.75	20.65
803-36C	40.90	38.85	36.95	35.05	29.25

SERIES 902 TOGGLE SWITCHES

902-4C	$ 14.05	$ 13.35	$ 12.70	$ 12.05	$ 10.05
902-8C	17.30	16.45	15.60	14.85	12.35
902-12C	19.10	18.15	17.25	16.35	13.65
902-24C	37.30	35.45	33.70	31.95	26.65
902-36C	52.10	49.50	47.05	44.65	37.25
902-48C	72.80	69.15	65.75	62.40	52.05
902-72C	109.65	104.15	99.00	93.95	78.40
902-108C	165.00	156.75	149.00	141.40	118.00
902-144C	240.00	228.00	216.70	205.70	171.60

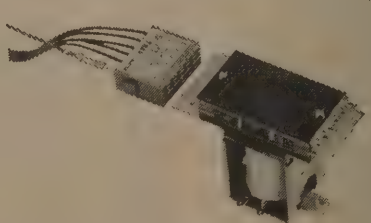
HOW TO SPECIFY

1. Specify series.
2. Specify number of poles and contact form (e.g. **902-12C**).

Series	Type	Application	No. of Poles	Contact Form*
802	Toggle	General purpose	4 to 144	"C"
902	Toggle	Low level	4 to 144	"C"
803	Pushbutton	General purpose	4 to 36	"C"

*Form "C", double throw break-before-make.

T-BAR CONNECTORS



The T-Bar series 88601 connector has been specifically designed for use with T-Bar switches and relays. The connector contacts are crimp type which are snapped into a plastic insulator block. After insulation, connectors are held in place against shock and vibration by use of a retaining clip. See T-Bar relay section for further information on T-Bar tools and connectors.

SERIES 9 ILLUMINATED PUSHBUTTON CONTROLS

The Series 9, 9M, and 9H are four-lamp pushbutton panel controls designed to conform with the requirements of Military Specifications. Series 9 is the standard 4-lamp switch. Series 9M is a MIL approved version to MIL-S-22885-/9 thru /12. Series 9H conforms to MIL-S-22885 and meets requirements of MIL-S-901C (High Impact). The series offers an extremely broad choice of combinations of display arrangements, color coding, switching, and customized messages, all of which can be easily and quickly replaced, interchanged, or modified in the field. Switch combinations of two, three, or four SPDT switches with momentary or alternate push-on push-off action, and electrical inter-unit interlocking provisions are standard options. Circuit versatility permits independent illumination of up to four lamps, in the four separate quadrants of a single pushbutton. All mounting and removal can be accomplished from the front of the panel. A single captive screw controls four clamps which securely lock the unit to any panel, from .040" to .250" thick. Switch contacts are the standard silver (rated 10 A at 125/250 VAC, 3 A inductive at 30 VDC, or 5 A resistive at 30 VDC) or gold crossbar (rated 1 A at 125 VAC or 30 VDC).

9M	11	21	31	412	51	61	71	81
Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ	Ⓕ	Ⓖ	Ⓗ	Ⓘ

Ⓐ Series Identification

Ⓑ Basic Unit

	Net Each
11 = Switch actuator assembly	$8.95
13 = Switch actuator with 28 VDC holding coil	18.70
14 = Switch actuator with 12 VDC holding coil	18.70
15 = Switch actuator with 6 VDC holding coil	18.70
16 = Indicator assembly	9.10

Ⓒ Lamp Circuits

21 = 5-terminal, common ground — $1.80



22 = 6-terminal, dual ground, two color full or horizontal display — 2.55



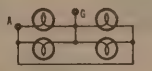
24 = 6-terminal, dual ground, vertical display — 2.55



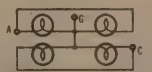
25 = 8-terminal, separate grounds — 2.75



26 = 2-terminal, common ground, common input, single color — 1.80



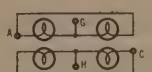
27 = 3-terminal, common ground horiz. split inputs, two color full or horizontal display — 2.55



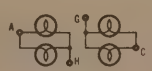
28 = 3-terminal, common ground vertical split inputs, vertical display — 2.55



29 = 4-terminal, dual grounds, horiz. split inputs, two color full or horizontal display — 2.80

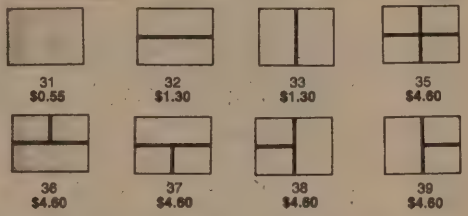


201 = 4-terminal, dual grounds, vertical split inputs, vertical display — 2.80



Ⓓ Diffusers

	Net Each
30 = No diffuser	$0.55



31 $0.55 · 32 $1.30 · 33 $1.30 · 35 $4.60 · 36 $4.60 · 37 $4.60 · 38 $4.60 · 39 $4.60

Ⓔ Lamp Filters

The upper left lamp position (as viewed from the panel face) has been established as the starting point for the designation of color presentation. The sequence should always be clockwise from the upper left. The code number will be 4 followed by one to four numbers, depending on the color requirements.

	Net per 4
40 = No filters	
41 = Red	$2.20
42 = Green	2.20
43 = Amber	2.20
44 = Yellow	2.20
46 = White	2.20
47 = Blue	2.20

Ⓕ Lamps

	Net per 4
50 = No lamps	
51 = MS25237-328, 6 V	$4.40
52 = #381, 6 V (long life)	4.40
53 = #330, 14 V	4.40
54 = #382, 12 V (long life)	4.40
55 = MS25237-327, 28 V	4.40
57 = #387, 28 V (long life)	4.40

Ⓖ Switches

	Net Each
60 = No switches	
61 = 2 SPDT momentary	$5.05
62 = 3 SPDT momentary	8.00
63 = 4 SPDT momentary	12.10
64 = 2 SPDT alternate	7.50
65 = 3 SPDT alternate	13.15
66 = 4 SPDT alternate	14.40

Ⓗ Front Lens

70 = No lens	
71 = Standard lens	$0.75

Ⓘ Legend Engraving

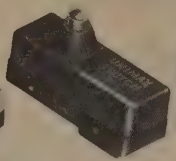
Consult your distributor

Snap-Action Switches

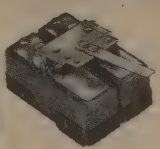
PRECISION SWITCHES



2HBF



2HLD



2DHBY

BASIC TYPES

Series 2HB; SPDT with solder lug (suffix -1) or screw (suffix -5) terminals. Several actuator variations available. Rated 20 amps, 125/250/480 VAC; 0.25 amp, 250 VDC; 0.5 amp, 125 VDC. SPST-NO or SPST-NC action available. 1.94" long; .69" wide. Prices on request. UL and CSA listed.

Unimax Type	Actuator, Max. Operating Force, Oz, and Term. Type	Body Hgt. (In.)	Net Each 1-9
2HB-1	Pin, 9-13, lug term.	.83	$3.75
2HB-5	Same as above, screw term.	.94	3.95
2HBA-1	Hinged roller leaf, 1-3.5, lug	1.05	6.25
2HBA-5	Same as above, screw term.	1.16	6.35
2HBD-1	Stub plunger, 9-13, lug term.	.83	5.05
2HBD-5	Same as above, screw term.	.94	5.10
2HBF-1	Roller hinge, 10, lug	1.05	6.20
2HBF-5	Same as above, screw term.	1.16	6.35
2HBJ-1	Panel amount, plunger, 9-13, lug	.83	8.45
2HBJ-5	Same as above, screw term.	.94	8.60
2HBL-1	Leaf spring, 5, lug term.	.83	3.80
2HBL-5	Same as above, screw term.	.94	4.50
2HBM-1	Door safety, 10, lug term.	.83	7.65
2HBM-5	Same as above, screw term.	.94	7.90
2HBT-1	Rigid lever, 1-2.5, lug term.	1.05	5.00
2HBT-5	Same as above, screw term.	1.16	5.05
2HBW-1	Roller leaf, 5, lug term.	.83	5.05
2HBW-5	Same as above, screw term.	.94	5.45
2HBY-1	Prestressed hinge, 10, lug	1.05	5.10
2HBY-5	Same as above, screw term.	1.16	5.35

HIGH SENSITIVITY TYPES

For use where small movement differential and low actuating force are required. High repeat accuracy. SPDT. UL and CSA listed at 15 amps, 125/250 VAC.

WHB-1	Pin, 7-9, lug terminal	.83	$4.80
WHB-5	Same as above, screw term.	.94	5.00

LOW FORCE TYPES

WHBT215-1	Rigid lever, 15, lug term.	1.05	$4.95
WHBT215-5	Same as above, screw term.	1.16	5.05

SPECIAL PURPOSE TYPES

UL listed at 22 amps, 125/277 VAC; ¼ hp at 125 VAC; ½ hp at 250 VAC.

WHR-1	Pin, 11-18, lug term.	.83	$4.80
WHR-5	Same as above, screw term.	.94	4.30

HEAVY DUTY TYPES

UL and CSA listed at 20 amps, 125/250/480 VAC; 10 amps. 125 VAC lamp load; 1 hp at 125 VAC; 2 hp at 250 VAC.

2HL-1	Pin, 14-26, lug term.	.83	$4.55
2HL-5	Same as above, screw term.	.94	4.20
2HLA-1	Roller lever, 2.5, lug term.	1.08	6.75
2HLA-5	Same as above, screw term.	1.19	6.50
2HLD-1	Stub plunger, 14-26, lug term.	.81	5.15
2HLD-5	Same as above, screw term.	.92	4.85
2HLJ-1	Large plunger, 14-26, lug	.81	8.95
2HLJ-5	Same as above, screw term.	.92	8.55
2HLL-1	Leaf spring, 9, lug term.	.83	5.05
2HLL-5	Same as above, screw term.	.94	4.80
2HLT-1	Rigid lever, 2.5, lug term.	1.08	5.55
2HLT-5	Same as above, screw term.	1.19	5.15
2HLW-1	Roller leaf, 9, lug term.	.83	6.40
2HLW-5	Same as above, screw term.	.94	5.90

DUAL CIRCUIT TYPES

Two SPDT switches controlled by a single actuator. UL and CSA listed at 20 amps, 125/250/480 VAC; ½ amp, 125 VDC; ¼ amp, 250 VDC. 1.94" long; 1.38" wide.

2DHBF-1	Rigid roller, 15, lug	.83	$12.95
2DHBF-5	Same as above, screw term.	.94	12.95
2DHBY-1	Rigid lever, 15, lug term.	.83	11.70
2DHBY-5	Same as above, screw term.	.94	12.20
2DHBTX-1	Individually adjustable rigid lever, 3.5, lug term	.83	14.35
2DHBTX-5	Same as above, screw term.	.94	14.50

GENERAL PURPOSE SWITCHES



AT



2TMT15



2LMA2-C

SPDT—15 AMP TYPES

Series A snap action SPDT switches with quick-connect terminals. Rated 15 amps, 125/250 VAC; ¾ hp at 120 VAC; 1-½ hp at 250 VAC. UL and CSA listed.

Unimax Type	Actuator	Max. Operating Force (Oz.)	Overall Size (Inches)	Net Each 1-9
AA	Hinged roller	4	1.81 × .64 × .80	$2.25
ABB	Red pushbutton	20	1.81 × .73 × .92	2.85
AJ	Plunger	20	1.81 × .64 × .64	1.85
AL	Leaf	12	1.81 × .64 × .64	1.50
AQ	Plunger	20	1.81 × .64 × .64	1.50
AT	Hinged lever	4	1.81 × .64 × .64	1.85
AW	Roller leaf	12	1.81 × .64 × .64	1.70

MINIATURE SWITCHES

Miniature Series 2TM and 24TM: SPDT; solder terminals. Overall size: 1.09 × .40 × .76. Series 2TM rated 10 amps, 250 VAC; Series 24TM, 1 amp, 125 VAC. Also available with SPST-NO or SPST-NC action; .187" or .250" wide quick-connect terminals or screw terminals. Information and prices on request. UL and CSA listed.

SERIES 2TM-SPDT—SOLDER LUG TERMINALS

Unimax Type	Actuator	Max. Operating Force (gm)	Net Each 1-9
2TMA-1	Short roller lever	90	$2.20
2TMA15-1	Standard roller lever	45	2.20
2TMT-1	Short lever	90	1.85
2TMT14-1	Simulated roller lever	50	1.90
2TMT15-1	Standard lever	45	1.85
2TMT17-1	Long-lever	25	1.90
2TMT28-1	Extra long lever	12	1.90

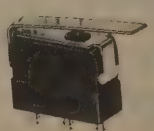
SUBMINIATURE SWITCHES

Subminiature Series 2LM: SPDT; turret terminals. Overall size: .781 × .250 × .452. Rated 5 amps, 250 VAC. Also available in Series 3LM, heavy duty, 10 amp versions. Information and prices on request. UL and CSA listed.

Unimax Type	Actuator	Max. Operating Force (gm)	Net Each 1-9
2LM-C	Pin	5	$2.25
2LMA-C	Roller lever	40	3.10
2LMA2-C	Long roller lever	15	3.10
2LML-C	Leaf	6	3.30
2LMT-C	Rigid lever	40	2.60



MM



MML2



MMMW2

MINIATURE SUBMINIATURE SWITCHES

Series MM: Extremely small snap-action SPDT switches. Turret terminals. Electrical ratings: 7 amps at 125/250 VAC; 7 amps resistive or 4 amps inductive at 28 VDC, at sea level; 4 amps resistive or 2.5 amps inductive at 28 VDC, at 50,000 ft.

Unimax Type	Actuator	Max. Operating Force (Oz.)	Overall Size (Inches)	Net Each 1-9
MM	Pin	5	.500 × .200 × .350	$4.40
MMD	Plunger	5	.500 × .200 × .350	8.40
MML	Leaf	4	.530 × .200 × .360	6.15
MML2	Leaf	6	.530 × .200 × .360	6.15
MMW	Roller leaf	4	.530 × .200 × .360	6.75
MMW2	Roller leaf	6	.530 × .200 × .360	6.75

Unimax Switch — Precision Snap-Acting Switches

SERIES KS COMPACT, EASY-WIRING SWITCHES


Style T


Style F


KSBP Actuator


KSB15 Actuator


KSB Actuator

The KS series combines 20-amp basic switches with die-cast aluminum housings that provide maximum ease in mounting and wiring. Mount flat with two thru bolts in the T style or upright with flanges in the F style. The conduit hub has a ½-14 NPSM internal thread. Ratings: 20 amps at 125/250/480 VAC, ½ amp at 125 VDC or ¼ amp at 250 VDC. Can be furnished with h.p. ratings.

Unimax No.	Actuator	Operate Force Ozs.	Over-travel	Net Each 1-9
KSB-T	Top plunger	9-24	.219"	$15.70
KSB-F	Top plunger	9-24	.219"	15.70
KSB15-T	Wobble rod	.....	75°	25.10
KSB15-F	Wobble rod	.....	75°	25.10
KSBP-T	Roller lever	10-20	.219"	23.10
KSBP-F	Roller lever	10-20	.219"	23.10

SERIES KX EXPLOSION-PROOF SWITCHES

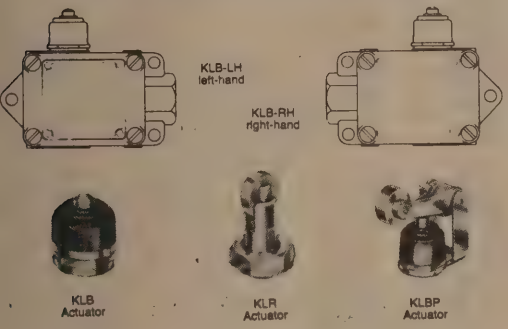

KXL-P5


KXL-P

Rated for use in hazardous atmosphere such as Class I, Groups C and D and in Class II, Groups E, F and G. Lapped faces provide a tight joint between the removable plate and body. Tapped, blind holes are provided in the top, bottom, back, and right end of the housing for mounting. Roller lever actuators are continuously adjustable through 360° and can be locked in position without special tools. Ratings: 1 h.p. at 125 VAC, 2 h.p. at 250 VAC, 20 amps at 125/250/480 VAC, 10 amps at 125 VAC lamp load, ½ amp at 125 VDC, ¼ amp at 250 VDC.

Unimax No.	Actuator	Operate Force Lbs.	Over-travel	Net Each 1-9
KXL-J	Top plunger	3	.188"	$52.45
KXL-P	Roller lever	¾-2¼	60°	52.45
KXL-P5	Roller lever	¾-2¼	60°	52.45

SERIES KL HEAVY-DUTY SWITCHES



KLB Actuator

KLR Actuator

KLBP Actuator

The KL housing is a sturdy die casting with a removable front plate attached by four captive screws. An o-ring seals the joint. The conduit hub is internally tapped with a ½-14 NPSM thread and can be furnished for entrance from either end of the case. Three mounting ears provide for mounting the switch. Ratings: 1 h.p. at 125 VAC, 2 h.p. at 250 VAC, 20 amps at 125/250/480 VAC, 10 amps at 125 VAC lamp load, ½ amp at 125 VDC, ¼ amp at 250 VDC.

Unimax No.	Actuator	Operate Force Lbs.	Over-travel	Net Each 1-9
KLB-LH	Top plunger	2½	.219"	$29.00
KLB-RH	Top plunger	2½	.219"	29.00
KLR-LH	Roller plunger	2½	.156"	38.65
KLR-RH	Roller plunger	2½	.156"	38.65
KLB15-LH	Wobble rod	.....	75°	41.40
KLB15-RH	Wobble rod	.....	75°	41.40
KLBP-LH	Roller lever	2	.250"	38.55
KLBP-RH	Roller lever	2	.250"	38.55

SERIES KW SPLASH-PROOF SWITCHES



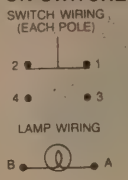
A combination of a heavy duty switch and a sealed enclosure to prevent the entrance of most liquids. Tapped, blind holes are provided in the top, bottom, back and right end of the housing for mounting. Roller levers are continuously adjustable through 360° and can be locked in place without special tools. Ratings: 1 h.p. at 125 VAC, 2 h.p. at 250 VAC, 20 amps at 125/250/480 VAC, 10 amps at 125 VAC lamp load, ½ amp at 125 VDC, ¼ amp at 250 VDC. Operating Force: ¾-3 lbs max. Overtravel: 60°.

Unimax No. KWL-P—Clockwise rotation. Net Each Lots of 1-9..... **$34.50**

Unimax No. KWL-P2—Counterclockwise rotation. Net Each Lots of 1-9..... **$34.50**

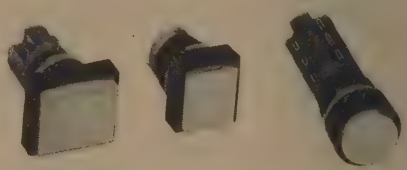
TH SERIES PUSHBUTTON SWITCHES

The TH series of switches includes both lighted and unlighted versions in a broad variety of bezel and lens sizes and shapes. In addition to pushbutton, both key operated and rotary versions are offered. All types are available with one to four poles and are rated at 5 amps at 250 VAC. The alternate action switches incorporate a unique two-way mechanism that allows you to change from alternate to momentary action (and back again) by simply moving a lever accessible through a small window on the side of the switch. Gold-plated terminals will accept 2 #18 AWG wires or 4 #20 AWG wires. **Switch:** Double-break, double-throw, snap-acting, momentary or alternate with momentary option. **Life:** 100,000 at rated load. **Contact Material:** Gold-plates silver. **Operating Temperature Range:** −30° C to +55° C. **Dielectric Strength:** 2000 VAC for 1 minute. **Insulation Resistance:** 2000 megohms. **Lens Colors Available:** white (W), red (R), green (G), yellow (Y), blue (B), orange (O), black (S) or clear (C). Specify color when ordering, i.e. TH01-931(S). Lens caps are available with legends; information and pricing available on request. UL/CSA listed.



Series TH switches use either a T-1 ¾ midget grooved base lamp in 6.3, 14 or 28 volt versions or a T5.5 telephone slide base lamp in 6, 12, 24, 48 or 60 volt versions. Specify voltage needed when ordering, i.e. TH31-963 (28).





TYPE TH01 TAPERED BEZEL

The TH01 series of lighted pushbutton switches consists of styles with either square or rectangular lens incorporated within a tapered bezel. Uses standard T-1 ¾ midget grooved lamps replaceable from the front of the panel. Switch prices shown are for the basic switch only; lens and bulb are priced and ordered separately.

Unimax No.	Action	No. of Poles	Net Each
	RECTANGULAR LENS		
TH01-121	Momentary	1	$ 8.10
TH01-122	Momentary	2	10.00
TH01-123	Momentary	3	14.00
TH01-124	Momentary	4	17.90
TH01-261	Alternate	1	8.35
TH01-262	Alternate	2	10.30
TH01-263	Alternate	3	14.30
TH01-264	Alternate	4	18.15
TH01-040	Indicator only		1.85
	SQUARE LENS		
TH01-151	Momentary	1	$ 8.10
TH01-152	Momentary	2	10.00
TH01-153	Momentary	3	14.00
TH01-154	Momentary	4	17.90
TH01-281	Alternate	1	8.35
TH01-282	Alternate	2	10.30
TH01-283	Alternate	3	14.30
TH01-284	Alternate	4	18.15
TH01-050	Indicator only		1.85
	ACCESSORIES		
TH01-901	Rectangular lens translucent		$0.50
TH01-902	Rectangular lens, transparent		.50
TH01-951	Square lens, translucent		.50
TH01-953	Square lens, transparent		.50
TH01-914	Protective seal for rectangular switches		3.30
TH01-926	Square barrier		.85
TH01-927	Rectangular barrier		.85
TH01-925	Rectangular switch guard		1.20
TH01-963	T-1 ¾ lamp (specify voltage)		.70
TH02-906	Lamp remover		.85
TH02-905	Lens remover		1.10
TH01-905	Mounting wrench		2.65



TYPE TH81 ROTARY SWITCH

The operator portion or cap, which is gray colored, has a colored illuminated lens insert. The switch has a full 360° travel, with detented switch operation every 90°. Prices include cap. Uses T5.5 telephone slide base lamp replaceable from the front of the panel.

Unimax No.	Action	No. of Poles	Net Each
TH81-231	Maintained	1	$ 9.20
TH81-232	Maintained	2	12.10
TH81-233	Maintained	3	16.10
TH81-234	Maintained	4	20.00
	ACCESSORIES		
TH02-903	T5.5 lamp (specify voltage)		$0.80

TYPE TH31 STRAIGHT BEZEL

The TH31 series switches incorporate a larger lens cap and have a flat, straight bezel. Lens caps are available in round, square or rectangular and flat or concave. Uses standard T-1 ¾ midget grooved base lamps replaceable from the front of the panel. Switch prices shown are for the basic switch only; lens and bulb are priced and ordered separately.

Unimax No.	Action	No. of Poles	Net Each
	RECTANGULAR LENS		
TH31-121	Momentary	1	$ 8.10
TH31-122	Momentary	2	10.00
TH31-123	Momentary	3	14.00
TH31-124	Momentary	4	17.90
TH31-281	Alternate	1	8.85
TH31-282	Alternate	2	10.30
TH31-283	Alternate	3	14.30
TH31-284	Alternate	4	18.15
TH31-040	Indicator only		2.00
	SQUARE LENS		
TH31-151	Momentary	1	$ 8.10
TH31-152	Momentary	2	10.00
TH31-153	Momentary	3	14.00
TH31-154	Momentary	4	17.90
TH31-281	Alternate	1	8.85
TH31-282	Alternate	2	10.30
TH31-283	Alternate	3	14.30
TH31-284	Alternate	4	18.15
TH31-050	Indicator only		2.00
	ROUND LENS		
TH01-131	Momentary	1	$ 8.10
TH01-132	Momentary	2	10.00
TH01-133	Momentary	3	14.00
TH01-134	Momentary	4	17.90
TH01-271	Alternate	1	8.85
TH01-272	Alternate	2	10.30
TH01-273	Alternate	3	14.30
TH01-274	Alternate	4	18.15
TH01-030	Indicator only		2.00
	ACCESSORIES		
TH31-902	Rectangular lens, concave, translucent		$0.50
TH31-904	Rectangular lens, concave, transparent		.50
TH31-952	Square lens, concave, translucent		.50
TH31-954	Square lens, concave, transparent		.50
TH31-932	Round lens, concave, translucent		.50
TH31-934	Round lens, concave, transparent		.50
TH31-901	Rectangular lens, flat, translucent		.50
TH31-903	Rectangular lens, flat, transparent		.50
TH31-951	Square lens, flat, translucent		.50
TH31-953	Square lens, flat, transparent		.50
TH31-931	Round lens, flat, translucent		.50
TH31-933	Round lens, flat, transparent		.50
TH31-963	T-1 ¾ lamp (specify voltage)		.70
TH31-925	Rectangular switch guard		1.20
TH02-905	Lamp remover		1.10
TH01-905	Mounting wrench		2.65

LISTING CONTINUED ON FOLLOWING PAGE

TH SERIES (CONTINUED)



TYPE TH42 COVERED BEZEL

The TH42 series features an extra-large lens that extends over the bezel, covering the full panel surface of the switch. Uses standard T-1 ¾ midget grooved base lamps replaceable from the front of the panel. Switch prices shown are for the basic switch only; lens and bulb are priced and ordered separately.

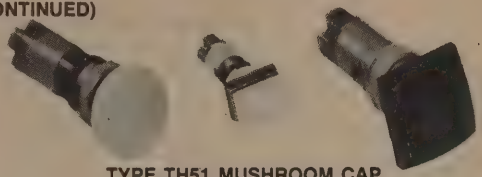
Unimax No.	Action	No. of Poles	Net Each
	RECTANGULAR		
TH42-121	Momentary	1	$ 6.10
TH42-122	Momentary	2	10.00
TH42-123	Momentary	3	14.00
TH42-124	Momentary	4	17.90
TH42-221	Alternate	1	6.65
TH42-222	Alternate	2	10.30
TH42-223	Alternate	3	14.30
TH42-224	Alternate	4	18.15
TH42-020	Indicator only		2.00
	ROUND		
TH42-131	Momentary	1	$ 6.10
TH42-132	Momentary	2	10.00
TH42-133	Momentary	3	14.00
TH42-134	Momentary	4	17.90
TH42-231	Alternate	1	6.65
TH42-232	Alternate	2	10.30
TH42-233	Alternate	3	14.30
TH42-234	Alternate	4	18.15
TH42-030	Indicator only		2.00
	SQUARE		
TH42-151	Momentary	1	$ 6.10
TH42-152	Momentary	2	10.00
TH42-153	Momentary	3	14.00
TH42-154	Momentary	4	17.90
TH42-251	Alternate	1	6.65
TH42-252	Alternate	2	10.30
TH42-253	Alternate	3	14.30
TH42-254	Alternate	4	18.15
TH42-050	Indicator only		2.00
	ACCESSORIES		
TH42-901	Rectangular lens, translucent		$0.50
TH42-903	Rectangular lens, transparent		.50
TH42-931	Round lens, translucent		.50
TH42-983	Round lens, transparent		.50
TH42-951	Square lens, translucent		.50
TH42-953	Square lens, transparent		.50
TH42-928	Protective frame		.65
TH01-928	Round switch barrier		.90
TH01-907	Open-fork wrench		.65
TH01-947	Rectangular panel plug		.65
TH01-948	Square panel plug		.65
TH01-949	Square panel plug		.65
TH31-963	T-1 ¾ lamp (specify voltage)		.70



TYPE TH71 ROUND PUSHBUTTON

A rugged, industrial design featuring a protective, anodized aluminum shroud around an illuminated lens cap. Uses a T-1 ¾ midget grooved base lamp replaceable from the front of the panel. Prices shown include lens cap.

Unimax No.	Action	No. of Poles	Net Each
TH71-131	Momentary	1	$10.70
TH71-132	Momentary	2	14.60
TH71-133	Momentary	3	18.60
TH71-134	Momentary	4	22.50
TH71-231	Alternate	1	11.05
TH71-232	Alternate	2	14.90
TH71-233	Alternate	3	18.90
TH71-234	Alternate	4	22.80
TH71-030	Indicator only		6.40
	ACCESSORIES		
TH31-963	T-1 ¾ lamp (specify voltage)		$ 0.75



TYPE TH51 MUSHROOM CAP NON-ILLUMINATED

The TH51 series switches are furnished as complete functional units, incorporating a switch and actuator cap. Available as either momentary action or maintained (push-pull) action. Switch prices shown include the cap.

Unimax No.	Action	No. of Poles	Net Each
	RECTANGULAR		
TH51-121	Momentary	1	$ 7.40
TH51-122	Momentary	2	11.25
TH51-123	Momentary	3	15.35
TH51-124	Momentary	4	19.20
TH51-221	Maintained	1	7.95
TH51-222	Maintained	2	11.85
TH51-223	Maintained	3	15.85
TH51-224	Maintained	4	19.75
	ROUND		
TH51-131	Momentary	1	$ 7.40
TH51-132	Momentary	2	11.25
TH51-133	Momentary	3	15.35
TH51-134	Momentary	4	19.20
TH51-231	Maintained	1	7.95
TH51-232	Maintained	2	11.85
TH51-233	Maintained	3	15.85
TH51-234	Maintained	4	19.75
	SQUARE		
TH51-151	Momentary	1	$ 7.85
TH51-152	Momentary	2	11.75
TH51-153	Momentary	3	15.75
TH51-154	Momentary	4	19.65
TH51-251	Maintained	1	8.35
TH51-252	Maintained	2	12.25
TH51-253	Maintained	3	16.25
TH51-254	Maintained	4	20.15



OIL-TIGHT SWITCHES

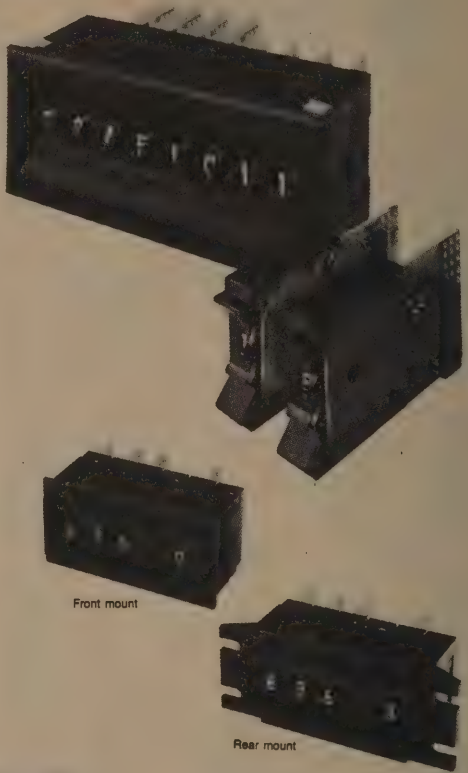
Series TH oil-tight switches include round mushroom cap switches, key-operated switches, rotary switches and a round pushbutton switch with anodized collar and indicator only versions. All are sealed against oil and water and conform with NEMA #4, 13 requirements and IEC 144/IP 65, DIN 40050/P54. The TH82 accepts a T5.5 telephone slide base lamp. The TH72 accepts a T-1 ¾ midget grooved base lamp.

Unimax No.	Action	No. of Poles	Net Each
TH52-131	Momentary	1	$11.45
TH52-132	Momentary	2	15.05
TH52-133	Momentary	3	18.75
TH52-134	Momentary	4	22.45
TH52-231	Maintained	1	11.75
TH52-232	Maintained	2	15.35
TH52-233	Maintained	3	19.05
TH52-234	Maintained	4	22.70
TH63-131*	Momentary	1	22.75
TH63-132*	Momentary	2	26.20
TH63-133*	Momentary	3	29.60
TH63-231*	Maintained	1	22.75
TH63-232*	Maintained	2	26.20
TH63-233*	Maintained	3	29.60
TH64-231#	Maintained	1	22.75
TH64-232#	Maintained	2	26.20
TH64-233#	Maintained	3	29.60
TH72-131	Momentary	1	11.65
TH72-132	Momentary	2	14.25
TH72-133	Momentary	3	17.80
TH72-134	Momentary	4	23.05
TH72-231	Maintained	1	12.70
TH72-232	Maintained	2	15.25
TH72-233	Maintained	3	18.65
TH72-234	Maintained	4	23.75
TH72-030	Indicator only		8.05
TH82-231	Maintained	1	11.60
TH82-232	Maintained	2	14.15
TH82-233	Maintained	3	17.55
TH82-234	Maintained	4	22.65
	ACCESSORIES		
TH31-963	T-1 ¾ lamp (specify voltage)		$0.70
TH02-903	T5.5 lamp (specify voltage)		.80

*Key removable in off position. #Key removable in center position.

SERIES S DIGITAL THUMBWHEEL SWITCHES

Series S thumbwheel switches require no assembly hardware. They mate with other switches, blank bodies, half bodies, dividers and end plates by merely snapping together. They are available in front mount snap-in versions and rear screw-mount versions. Standard output codes that will satisfy most requirements are listed; special codes are available on request. Switches have 1/32" printed board with output terminals on 0.100" centers. Switches will accept connectors or can be hard wired; they also can be supplied with solder or wrap pins. With option A, output components may be mounted on the board. Standard colors are matte finish black body and black wheel with white markings. Other colors and special markings are available on special order. Stop pins and window dust covers are also options. **Character Height:** 8, 10 and 11 positions—.190"; 16 positions—.120". **Operating Force in Either Direction:** Approx. 10 ozs. **Housing:** ABS plastic, flame retardant. **PC Boards:** .032" FR-4 with gold plate over nickel over copper laminate. **Contacts:** Gold plated beryllium copper. **Rated Load:** 2 amps at 115 VAC or 28 VDC. **Insulation Resistance:** 1000 megohms.



HOW TO ORDER

S	F	–	12	A	J
(A)	(B)		(C)	(D)	(E)

(A) **Product Group**

(C) **Switch Part No.**
See listing

(B) **Mounting**
F—Front mount
R—Rear mount

PRICE ADDERS FOR OPTIONS

Option	Net Each
A	$0.75
B	★
C	1.00
D	★
E	.75
F	★
G	.50
H	.50
J	.50
K	.50

★Available on request.

(D) (E) etc. **Options**
A—Extended board with provision for components
B—Extended board with components mounted
C—Solder pins on board
D—Special terminations on board
E—Extended PC board
F—Special body or wheel markings
G—Stop pins
H—Decimal point on left side of switch
J—Dust window
K—Special colors.

STANDARD SWITCHES

Unimax No.	Description	Net Each
SF-1 SR-1	Double pole decimal, 5 position, 0-4 repeating	$4.00 4.00
SF-12 SR-12	Single pole decimal, 10 position	3.00 3.00
SF-13 SR-13	Double pole decimal, 10 position, separate commons	4.50 4.50
SF-14 SR-14	Single pole decimal, 10 position, make before break	3.00 3.00
SF-17 SR-17	10 position BCD with excess 3 notation	4.50 4.50
SF-18 SR-18	10 position BCD, complement only	3.00 3.00
SF-19 SR-19	10 position BCD with odd bit parity	4.50 4.50
SF-20 SR-20	10 position BCD with 10 at 0	4.50 4.50
SF-21 SR-21	10 position BCD only 0-9	3.00 3.00
SF-22 SR-22	10 position BCD with complements 0-9	4.00 4.00
SF-23 SR-23	10 position 0-9, 1, 2, 4, 2' Aiken code	4.50 4.50
SF-25 SR-25	10 position modified 1, 2, 4, 2' Aiken code	4.50 4.50
SF-27 SR-27	10 position 1, 2, 2'4 Berkeley code	4.50 4.50
SF-42 SR-42	10 position 0-9 Grey code plus complements	4.50 4.50
SF-43 SR-43	10 position 5-bit Teletype code	4.50 4.50
SF-48 SR-48	Single pole decimal, 11 position	4.50 4.50
SF-52 SR-52	Single pole decimal, 16 position	4.50 4.50
SF-53 SR-53	Single pole, 16 position, hexadecimal complement, dial 0-9, A-F	4.50 4.50
SF-54 SR-54	Single pole, 16 position, hexadecimal, dial 0-9, A-F	$4.50 4.50
SF-55 SR-55	Single pole decimal, 16 position dial 0-15	4.50 4.50
SF-56 SR-56	Single pole, 16- position, binary complement, dial 0-15	4.50 4.50
SF-57 SR-57	Single pole, 16 position, binary, dial 0-15	4.50 4.50
SF-60 SR-60	1, 2, 2, 2, 2 resistance decade, 10 position	3.75 3.75
SF-61 SR-61	10 position Kelvin-Varley voltage divider	4.00 4.00
SF-66 SR-66	10 position, 9's complement of BCD	3.75 3.75
SF-71 SR-71	10 position, 1, 2, 4, 2 resistance decade	3.75 3.75
SF-72 SR-72	10 position capacitance decade, 1, 2, 3, 4 code	3.75 3.75
SF-74 SR-74	10 position resistance decade, 1, 2, 3, 6 code	4.00 4.00
SF-120 SR-120	Single pole decimal, 10 position, — — repeating	3.00 3.00
SF-121 SR-121	Single pole decimal, 10 position, 1, 0 repeating	3.00 3.00
SF-122 SR-122	Single pole decimal, 10 position, 5, 0 repeating	3.00 3.00

ACCESSORIES

SF-EP SR-EP	Front mount end plates (pair) Rear mount end plates (pair)	$0.75 .50
SF/SP-DP	Divider plate	.40
SF/SR-BB	Blank body	.40
SF/SR-HB	Half body	.40
SF-DPD	Divider plate with springs*	.50
SF/SR-HW	Hardware (if required)	.50

*To assist in mounting long banks of switches.

LISTING CONTINUED ON FOLLOWING PAGE

SERIES S DIGITAL THUMBWHEEL SWITCHES (CONT'D)

SMART SWITCHES

These switches are called "smart" because they perform integral logic functions which the designer previously had to provide externally to the switch.

CAPACITANCE DECADES

The switch converts the number displayed to its decimal equivalent in capacitance. All capacitors are high quality tantalum or mylar types, fully tested before and after assembly.

Unimax No.	Description	Net Each
SF-160	Range of 10 to 90 microfarads	$23.00
SR-160		23.00
SF-161	Range of 1 to 9 microfarads	20.00
SR-161		20.00
SF-163	Range of 0.1 to 0.9 microfarads	17.50
SR-163		17.50
SF-164	Range of 0.01 to 0.09 microfarads	17.50
SR-164		17.50
SF-165	Range of 0.001 to 0.009 microfarads	16.50
SR-165		16.50

RESISTANCE DECADES

The switch converts the number displayed at the window to its decimal equivalent in resistance. All resistors are 1% metal film rated at ⅛ watt.

Unimax No.	Resistance	Net Each
SF-166	0-9 megohms in 1 megohm steps	$6.80
SR-166		6.80
SF-167	0-900K ohms in 100K ohm steps	6.80
SR-167		6.80
SF-168	0-90K ohms in 10K ohm steps	6.80
SR-168		6.80
SF-169	0-9K ohms in 1K ohm steps	6.80
SR-169		6.80
SF-170	0-900 ohms in 100 ohms steps	6.80
SR-170		6.80
SF-171	0-90 ohms in 10 ohms steps	6.80
SR-171		6.80
SF-172	0-9 ohms in 1 ohm steps	6.80
SR-172		6.80
SF-173	0-0.9 ohms in 0.1 ohm steps	14.00
SR-173		14.00

SEVEN-SEGMENT DRIVERS

These switches have a built-in seven-segment decoder driver. The number displayed by the switch is converted to BCD and presented to the decoder's BCD inputs. The seven segment lines (A-G) are available at the PC board terminals in addition to VCC, ground, ripple blanking input and output and lamp test.

Unimax No.	Description	Net Each
SF-174	CMOS logic	$16.50
SR-174		16.50
SF-175	TTL logic	16.50
SR-175		16.50
SF-176	TTL logic	12.50
SR-176		12.50
SF-177	TTL logic	12.50
SR-177		12.50

COUNTER-TIMER DECADES

In these switches, an SN7490N (TTL) or MM74C90 (CMOS) has been implemented on the switch. When the BCD of the counter equals the BCD equivalent of the decimal number displayed by the switch, an "equal" signal at the common of the switch is generated. Carry out, count input, reset, 9's preset, equal output and power inputs are available at the PC board terminals.

Unimax No.	Description	Net Each
SF-178	TTL/DTL logic, 0 to 9	$13.00
SR-178		13.00
SF-179	CMOS logic, 0 to 9	14.00
SR-179		14.00

DIGITAL COMPARATORS

These switches have a BCD decade comparator. The switch converts the decimal number displayed into a BCD format which is presented to the comparator as word "B". Word "A" is presented at the PC board terminals in addition to the "high", "equal" and "low" carry inputs.

Unimax No.	Description	Net Each
SF-180	TTL/DTL logic, 10 position,	$12.50
SR-180	BCD, high-equal-low, 0-9	12.50
SF-181	CMOS logic, 10 position,	13.50
SR-181	BCD, high-equal-low, 0-9	13.50
SF-182	TTL/DTL logic, 2 position,	13.00
SR-182	0 & 1 stopped	13.00
SF-183	CMOS logic, 2 position,	13.00
SR-183	0 & 1 stopped	13.00
SF-184	TTL/DTL logic, 2 position	13.00
SR-184	+ & − stopped	13.00
SF-185	CMOS logic, 2 position,	13.00
SR-185	+ & − stopped	13.00

SERIES S2D MINIATURE DIGITAL THUMBWHEEL SWITCHES

The Series S2D digital switches add new size, application, and inventory convenience to the state-of-the-art features found in the S Series switches. Series S2D switches are the same width as the Series S but are smaller in height and depth to save space. **Character Height:** 10 position—0.156"; 16 position—0.100". **Housing:** Polycarbonate. **Rated Load:** 3 amps at 50 VDC or VAC. All other specifications same as Series S.

HOW TO ORDER

S2D F 12 A H

(A) (B) (C) (D) (E)

(A) **Product Group**

(B) **Mounting**
F = Front mount
R = Rear mount with 8 mm flange
S = Rear mount with 4 mm flange
T = Rear mount without flange

(C) **Switch part number** See listing

PRICE ADDERS FOR OPTIONS

Option	Net Each
A	$0.75
B	★
C	1.00
D	★
E	.75
F	★
G	.50
H	.50
K	.50
L	.25

★Available on request.

(D) (E) etc. **Options**

A = Extended board with provision for components
B = Extended board with components mounted
C = Solder pins on board
D = Special terminations on board
E = Extended PC board
F = Special markings on wheel or body
G = Stop pins
H = Decimal point on left side of switch
K = Special colors
L = Right angle connections (extended board only)

Unimax No.	Description	Net Each
S2D-12	Single pole decimal, 10 position, dial 0-9	$4.15
S2D-16	10 position BCD, complement only, dial 0-9	5.35
S2D-21	10 position BCD only 0-9	4.15
S2D-22	10 position BCD with complements 0-9	5.15
S2D-54	Single pole, 16 position, binary, dial 0-9, A-F	8.00
S2D-57	Single pole, 16 position, binary, dial 0-15	8.00
S2D-120	Single pole, 10 position, + − repeating	4.70
S2D-121	Single pole, 10 position, 0, 1 repeating	4.70
S2D-122	Single pole, 10 position, 0, 5 repeating	4.70
S2F-EP	Front mount end plate (pair)	.85
S2T-EP	Rear mount end plate without flange (pair)	.85
S2S-EP	Rear mount end plate 4 mm flange (pair)	.85
S2R-EP	Rear mount end plate 8 mm flange (pair)	.85
S2D-DP	Divider plate	.45
S2D-BB	Blank body	.45

AMPERITE Relays & Flashers

DELAY RELAYS AND FLASHERS

ALL RELAYS LISTED ARE UL RECOGNIZED

DELAY RELAYS



Glass Enclosed—Hermetically Sealed—AC, DC or Pulsating Current. Circuits: SPST only—normally open or normally closed. Heater Wattage: The wattage consumed is approx. 2 W. Heaters can be operated continuously. **Contact Rating, Non-Inductive:** Standard Relays, 115 V, 3 amps AC; 220 V, 1 amp. Miniatures, 115 V, 2 amps; 220 V, 1 amp. For 220 V, use a 6500Ω, 5 W resistor in series with 115 V heater. **DC Voltage Breakdown:** 2-10 sec. types, 250 V contact-to-contact, 500 V heater-to-contact; 15-180 sec. types, 800 V. **Contact Drop:** 0.1 V, prox. at 1 amp. **Ambient Temperature:** Compensated for −55° C to +80° C; operable from −80° C to +125° C. Heaters of 26 V or less have better compensation than 115 V heater relays. **Life:** With 115 V, 2 amp AC non-inductive load, at least 250,000 operations. **Bases:** Standard, standard octal. Miniature, 9-pin miniature. Miniature types (designated by suffix T, e.g., 6N05T) available in delays from 2 to 180 sec.



DELAY RELAYS—NET EACH $9.21★

Delay Sec.	Tol., Sec.	Delay Sec.	Tol., Sec.	Delay Sec.	Tol., Sec.	Delay Sec.	Tol., Sec.
2	±1 1/2	10	±4	45	±10	120	±35
3	±1 1/2	15	±4	60	±15	150	±35
5	±2 1/2	20	±5	75	±15	180	±45
8	±3	30	±10	90	±20		

Bold face type indicates most popular types.

NORMALLY OPEN CONTACTS*

Del. Sec.†	Heater Voltages 2.5 V	5.0 V	6.3 V	12.6 V	26 V (22-30)	50 V	115 V
2	2N02	5N02	6N02	12N02	26N02	50N02	115N02
3	2N03	5N03	**6N03**	12N03	**26N03**	50N03	**115N03**
5	2N05	5N05	**6N05**	12N05	**26N05**	50N05	**115N05**
8	2N08	5N08	**6N08**	12N08	**26N08**	50N08	**115N08**
10	2N010	5N010	**6N010**	12N010	**26N010**	50N010	**115N010**
15	2N015	5N015	**6N015**	12N015	**26N015**	50N015	**115N015**
20	2N020	5N020	**6N020**	12N020	**26N020**	50N020	**115N020**
30	**2N030**	**5N030**	**6N030**	**12N030**	**26N030**	50N030	**115N030**
45	2N045	5N045	**6N045**	12N045	**26N045**	50N045	**115N045**
60	**2N060**	5N060	**6N060**	12N060	**26N060**	50N060	**115N060**
75	2N075	5N075	**6N075**	12N075	**26N075**	50N075	**115N075**
90	2N090	5N090	**6N090**	12N090	**26N090**	50N090	**115N090**
120	2N0120	5N0120	**6N0120**	12N0120	**26N0120**	50N0120	**115N0120**
150	2N0150	5N0150	**6N0150**	12N0150	**26N0150**	50N0150	**115N0150**
180	2N0180	5N0180	**6N0180**	12N0180	**26N0180**	50N0180	**115N0180**

†See tolerance table. *To order relays with normally closed contacts, replace **N0** in Amperite Number with **C**; prices are the same.

LONG DELAY RELAYS

Available in standard octal base only.

NORMALLY OPEN CONTACTS*

Delay, Seconds	Tolerance, Seconds	Heater Voltages 6.3 V	12/6 V	26 V	115 V
240	±50	**6N0240**	**12N0240**	**26N0240**	**115N0240**
300	±55	**6N0300**	**12N0300**	**26N0300**	**115N0300**

*To order relays with normally closed contacts, replace **N0** in Amperite Number with **C**; prices are the same.

STANDARD LONG DELAY RELAYS—NET EACH $11.21★

DIFFERENTIAL RELAYS

May be used for overload, overvoltage, or undervoltage protection. Relays reset automatically when the abnormal condition is removed. Heaters require approximately 1 watt but will withstand 100% overload indefinitely. Standard voltage tolerance for opening or closing is ±10%. Available in standard octal base and 9-pin miniature (add suffix **T**).

Heater Voltages	Amperite Numbers: Normally Open Contacts	Normally Closed Contacts	Heater Voltages	Amperite Numbers: Normally Open Contacts	Normally Closed Contacts
70	D 70V	DC 70V	90	D 90V	DC 90V
80	D 80V	DC 80V	100	D 100V	DC 100V

STANDARD DIFFERENTIAL RELAYS—NET EACH $11.21★

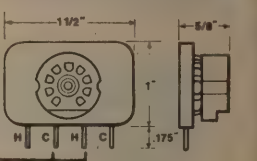
FLASHER RELAYS

Glass-enclosed, hermetically sealed. Operate approximately 1/3 on, 2/3 off. Percentage time on can be increased by reducing heater voltage. **Heater Wattage:** 1 watt. **Contact Rating, Non-Inductive:** 1/2 amp AC. **DC Voltage Breakdown:** 250 V contact-to-contact; 500 V heater-to-contact. **Bases:** Standard octal and 9-pin miniature. 115 V flashers obtainable in replacement quantities of 6 or less. Net Each .....**$9.21★**

Flashes per Minute*	6.3 V Heater Octal† Base	12 V Heater Octal† Base	26 V Heater Octal† Base	115 V Heater Octal† Base
30 ±15	**6F30**	**12F30**	**26F30**	**115F30**
45 ±15	**6F45**	**12F45**	**26F45**	**115F45**
60 ±20	**6F60**	**12F60**	**26F60**	**115F60**
75 ±20	**6F75**	**12F75**	**26F75**	**115F75**
90 ±25	**6F90**	**12F90**	**26F90**	**115F90**

*Flashes tolerance at 20° C. †Also available in 9-pin miniature; to order, add suffix **T** to part number; same prices apply.

ADAPTER SOCKETS



ORDERING INFORMATION: PC-100 (.1" CENTERS) - .3"

PRINTED CIRCUIT ADAPTER SOCKETS

Right angle mounting sockets enable a 9-pin miniature time delay relay, flasher, or ballast tube to be mounted on a PC board. Available with 0.1" terminal spacing.

PC ADAPTER SOCKETS—NET EACH $2.29

ASK FOR INFORMATION AND PRICING ON LONG RECYCLE AND FAST RECYCLE RELAYS

QUANTITY PRICE LIST★

Type of Tube	Quantity	Net Each
All standard octal or 9-pin miniature relays and flashers	1 to 9	**$9.21**
	10 to 49	**7.37**
	50 to 99	**6.45**
	100 to 499	**5.53**
	500 to 999	**4.61**
	1000 Up	**3.68**

Specials, Differentials, and Long-Delay relays: Add **$2.00** per tube. Ballast Regulators: Add **$4.00** per tube.

AC-DC BALLAST TUBES

Light, compact, with no moving parts. Will withstand vibrations of 10G min. Hermetically sealed; unaffected by altitude or humidity changes. Current values of 60 mA to 5 amps. Threshold voltage 0.4 to 40 volts. Any number of tubes with the same voltage range can be operated in parallel; DO NOT use in series. Approx. average life 2,000 hours. Will change up to 3% in current if aged 4-8 hours; very little thereafter.

NUMBERING SYSTEM

In general, the number approximately indicates the current-voltage threshold value. Thus, Amperite No. 3-4 is for a tube with 0.3 threshold current and 4.0 threshold voltage; No. 12-11 is for a tube with 1.2 threshold current and 11.0 threshold voltage.

BALLAST TUBES—NET EACH $13.21★

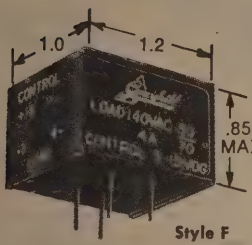
D6TK7†	2H20	3H-25	6-7	7H7	11-11
D6TF10†	3TK2†	4A10	6TF7†	7H11	12-4
D6TF30†	3-4	4-12	6-8B	8-3B	12A10
D7HT11*	3TF4A†	4H4C	6A10	8-4	12-11
1A10	3TF4†	4HTF4†	6-11	8A10	13-4
1TF10†	3TFV4†	4HTF7†	6-12	9-4	15-4
1HT2*	3V4	4H10	6-13	9-4A	16-4
1HT4*	3-7	4H11	6A15	9-7	17-3
1H10	3TF7†	5-4	6-36	9A10	20-3
1HTF10†	3A10	5TF4†	6H4	10-3	20-4
1HTF11†	3-11	5A10	6HTF4†	10-4A	22-4
1H20	3TF11	5-11	6H6	10-4B	34-2
1H22	3TF12†	5H4	7-4	10-4C	41-7E
2TK7†	3-14	5H10	7T4*	10-4D	55-1
2A10	3-16	6-3	7TF4†	10A10	55-4
2A12	3A20	6-4	7A10	10A12	
2A20	3-38A	6-4A	7-11	10-25	
2H4	3H-1-7	6-4B	7HTF4†	11-3	
2HTF4†	3HTF4†	6TF4*	7H4	11-4	
2H10	3H11	6TF4†	7H4B	11A10	

*T denotes T5 1/2 bulb-7 pin miniature, e.g., 3T4. †TF denotes T6 1/2 bulb-9 pin miniature, e.g., 3TF4. **Base Wiring:** Octal, 7 and 9 pin miniature—prongs 2-7.

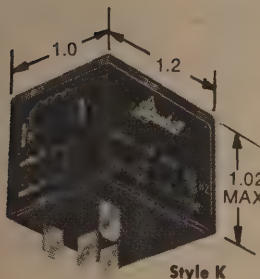
Grayhill INC. Solid-State Relays



Style H



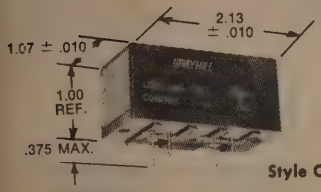
Style F



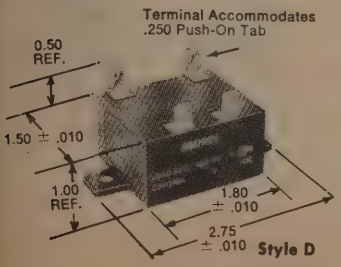
Style K



Style B



Style C



Style D

Solid-state relays are logic compatible, responding to low level voltage and current drive signals. All units feature transient protection; some feature zero-voltage turn-on or polarity protection as noted. All units except the 2500 VAC isolation types are U.L. recognized. **Load Voltage:** 75 to 140 VAC or 150 to 240 VAC. **Frequency Range:** 45 to 70 Hz. **Operating Temperature:** −25° C to +85° C. **Switch On Voltage Drop:** 0.8 to 1.6 VAC, rms. **Power Dissipation:** 5 to 15 watts. **Blocking Voltage:** 120 VAC units, 400 VAC; 220 VAC units, 600 VAC. **Dielectric Strength:** 1500 VAC, except as noted.

MINIATURE OPTICALLY ISOLATED RELAYS

Units feature zero-voltage turn-on. **Surge Current:** 80 amps. **Sizes:** Style H, 1.2" lg. × 1.0" w. × 0.475" h.; Style F, 1.2" lg. × 1.0" w. × 0.850" h.; Style K, 1.2" lg. × 1.0" w. × 1.02" h.

Grayhill Number	Input Control Voltage VDC	Load VAC	Load Amps	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MICRO CUBE, POTTED PACKAGE, PC MOUNT, STYLE H								
70S2-04-B-02-H	3-15	120	2.5	$15.00	$12.00	$10.80	$ 9.90	$ 9.00
70S2-05-B-02-H	14-30	120	2.5	15.00	12.00	10.80	9.90	9.00
70S2-04-C-02-H	3-15	220	2.5	16.45	13.16	11.84	10.86	9.87
70S2-05-C-02-H	14-30	220	2.5	16.45	13.16	11.84	10.86	9.87
MINI CUBE, POTTED PACKAGE, PC MOUNT, STYLE F								
70S2-04-B-04-F	3-15	120	4.0	$15.00	$12.00	$10.80	$ 9.90	$ 9.00
70S2-05-B-04-F	14-30	120	4.0	15.00	12.00	10.80	9.90	9.00
70S2-04-C-04-F	3-15	220	4.0	16.45	13.16	11.84	10.86	9.87
70S2-05-C-04-F	14-30	220	4.0	16.45	13.16	11.84	10.86	9.87
PLUG-IN MINI CUBE, POTTED PACKAGE, STYLE K								
70S2-04-B-04-K	3-15	120	4.0	$15.80	$12.64	$11.38	$10.43	$ 9.48
70S2-05-B-04-K	14-30	120	4.0	15.80	12.64	11.38	10.43	9.48
70S2-04-C-04-K	3-15	220	4.0	17.25	13.80	12.42	11.39	10.35
70S2-05-C-04-K	14-30	220	4.0	17.25	13.80	12.42	11.39	10.35

OPTICALLY ISOLATED RELAYS

Units feature zero-voltage turn-on. **Surge Current:** 6 amp rating, 80 amps; 10 amp rating, 100 amps; 15 amp rating, 150 amps. **Sizes:** Style B, 2.13" lg. × 1.07" w. × 1.00" h.; Style C, 2.13" lg. × 1.07" w. × 1.00" h.; Style D, 2.75" lg. × 1.50" w. × 1.00" h.

STANDARD POTTED PACKAGE, BULKHEAD MOUNT, STYLE B								
70S2-03-B-06-B	3-30	120	6.0	$23.50	$18.80	$16.92	$15.51	$14.10
70S2-03-B-10-B	3-30	120	10.0	23.65	18.92	17.03	15.61	14.19
70S2-03-B-15-B	3-30	120	15.0	24.60	19.68	17.71	16.24	14.76
70S2-03-C-06-B	3-30	220	6.0	24.45	19.56	17.60	16.14	14.67
70S2-03-C-10-B	3-30	220	10.0	24.60	19.68	17.71	16.24	14.76
70S2-03-C-15-B	3-30	220	15.0	25.90	20.72	18.65	17.09	15.54
70S4-03-C-06-B*	3-30	220	6.0	25.05	20.04	18.04	16.53	15.03
70S4-03-C-10-B*	3-30	220	10.0	25.20	20.16	18.14	16.63	15.12
70S4-03-C-15-B*	3-30	220	15.0	26.50	21.20	19.08	17.49	15.90
STANDARD POTTED PACKAGE, PC MOUNT, STYLE C								
70S2-03-B-06-C	3-30	120	6.0	$23.50	$18.80	$16.92	$15.51	$14.10
70S2-03-C-06-C	3-30	120	10.0	24.45	19.56	17.60	16.14	14.67
COMMERCIAL UNPOTTED PACKAGE, BULKHEAD MOUNT, STYLE D								
70S2-03-B-06-D	3-30	120	6.0	$23.00	$18.40	$16.56	$15.18	$13.80
70S2-03-B-10-D	3-30	120	10.0	23.15	18.52	16.67	15.28	13.89
70S2-03-B-15-D	3-30	120	15.0	24.10	19.28	17.35	15.91	14.46
70S2-03-C-06-D	3-30	220	6.0	23.95	19.16	17.24	15.81	14.37
70S2-03-C-10-D	3-30	220	10.0	24.10	19.28	17.35	15.91	14.46
70S2-03-C-15-D	3-30	220	15.0	25.40	20.32	18.29	16.76	15.24

*Dielectric strength, 2500 VAC.

REED RELAY ISOLATED RELAYS

Five volt input control requires nominal 13 mA drive current. Units feature reverse polarity protection and diode suppression. **Surge Current:** 6 amp rating, 80 amps; 10 amp rating, 100 amps; 15 amp rating, 150 amps. **Sizes:** Style B, 2.13" lg. × 1.07" w. × 1.00" h.; Style C, 2.13" lg. × 1.07" w. × 1.00" h.; Style D, 2.75" lg. × 1.50" w. × 1.00" h.

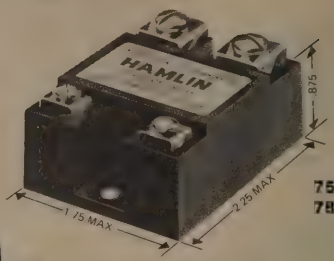
STANDARD POTTED PACKAGE, BULKHEAD MOUNT, STYLE B								
70H1-01-B-06-B	5	120	6.0	$13.95	$11.16	$10.04	$ 9.21	$ 8.37
70H1-01-C-06-B	5	220	6.0	14.60	11.68	10.51	9.64	8.76
STANDARD POTTED PACKAGE, PC MOUNT, STYLE C								
70H1-01-B-06-C	5	120	6.0	$13.95	$11.16	$10.04	$ 9.21	$ 8.37
70H1-01-C-06-C	5	220	6.0	14.60	11.68	10.51	9.64	8.76
COMMERCIAL UNPOTTED PACKAGE, BULKHEAD MOUNT, STYLE D								
70H1-01-B-06-D	5	120	6.0	$13.10	$10.48	$ 9.43	$ 8.65	$ 7.86
70H1-01-B-10-D	5	120	10.0	13.20	10.56	9.50	8.71	7.92
70H1-01-B-15-D	5	120	15.0	14.00	11.20	10.08	9.64	8.40
70H1-01-C-06-D	5	220	6.0	13.75	11.00	9.90	9.08	8.25
70H1-01-C-10-D	5	220	10.0	13.90	11.12	10.01	9.17	8.34
70H1-01-C-15-D	5	220	15.0	15.50	12.40	11.16	10.23	9.30

SOLID-STATE RELAYS to 40 AMPS

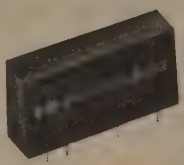
Solid-state relays ready for your circuit design. PCB or surface mounted units designed to switch inductive, capacitive or resistive loads up to 40 amps.

Special features:

- Optically coupled or hybrid
- Zero voltage synchronous and random switching
- 1500 and 2500 VAC isolation
- 1 1/2 to 40 ampere rating
- PCB mount and screw terminals
- Epoxy encapsulation
- 120 and 240 VAC switching capability



7500 SERIES
7800 SERIES



7590 SERIES

7500 SERIES — Opto-Isolated

Model	AC Line Voltage 47 to 63 Hz	Peak Repetitive Blocking Volt. Max.	Line Current Max. #	1 Cycle Surge (60 Hz) Max.	List Price 1-9
7591	120 VAC (48-140 VAC)†	200	3 RMS	80	$11.20
7592	240 VAC (24-280 VAC)†	400	3 RMS	80	11.60
7511-D	120 VAC (48-140 VAC)†	200	5 RMS	80	18.95
7512-D	240 VAC (24-280 VAC)†	400	5 RMS	80	20.35
7521-D	120 VAC (48-140 VAC)†	200	10 RMS	100	20.50
7522-D	240 VAC (24-280 VAC)†	400	10 RMS	100	22.30
7531-D	120 VAC (48-140 VAC)†	200	25 RMS	250	25.80
7532-D	240 VAC (24-280 VAC)†	400	25 RMS	250	27.90
7551-D	120 VAC (48-140 VAC)†	200	40 RMS	400	38.85
7552-D	240 VAC (24-280 VAC)†	400	40 RMS	400	47.40

† Low voltage operation results in some waveform distortion.

NOTE: Control signal 3-32 VDC, Resistive input.

UL File Nos.: E61761 and E47258

Models: 7511, 7512, 7521, 7522, 7531, 7532, 7551, 7552, 723, 773, 701, 7811, 7812, 7821, 7822, 7831, 7832, 7851, 7852

7800 SERIES

Hybrid SSR, Reed relay isolation with triac output and random switching feature.

Model	AC Line Voltage 47-63 Hz V, RMS	Repetitive Blocking Voltage V, Pk, Max.	Load Current A, RMS, Max.	1 Cycle Surge Current A, Pk, Max.	List Price 1-9
7811-X	120 (24-140)	200	5	80	$13.65
7812-X	240 (24-280)	400	5	80	14.43
7821-X	120 (24-140)	200	10	100	14.23
7822-X	240 (24-280)	400	10	100	14.10
7831-X	120 (24-140)	200	25	250	20.22
7832-X	240 (24-280)	400	25	250	21.30
7851-X	120 (24-140)	200	40	400	30.55
7852-X	240 (24-280)	400	40	400	33.54

TO ORDER: Substitute control option for letter "x" in basic model numbe
3 = 14-28 VDC, 5 = 3-13 VDC

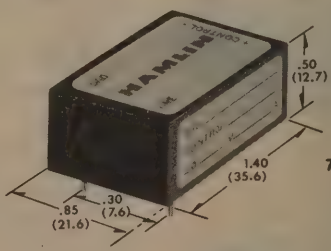
CSA File No. LR 40640

Models: 7511, 7512, 7521, 7522, 7531, 7532, 7551, 7552



MERCURY WETTED CONTACT AND OCTAL BASE RELAYS AVAILABLE

Hamlin manufactures a complete line of Mercury Wetted Contacts and plug-in style Relays available in 7, 8, 9 and 11 pin models. Consult factory for your specific application.



701 SERIES

Output and General Specifications	Basic Model Numbers — See Below to Order	
	701-11-X $9.25	701-12-X $11.20
AC Line Voltage, 47-63 Hz.	120V RMS	240V RMS
Blocking Voltage, Max.	200V Peak	400V Peak
On-State Voltage Drop @ Rated Current, Max.	1.7V Peak	
Load Current, Max.	1.5 Amps RMS	
One Cycle Surge Current, Non-Repet., Max.	15 Amps Peak	
One Second Overload Current, Max.	6 Amps Peak	
Off-State Leakage Current, Max.	8ma RMS	
Operate Time, Max. On/Off Switching	1 Millisecond	
Release Time, Max. On/Off Switching	1/2 Cycle of the AC Line	
Isolation, Min.	1500 V RMS to Control Circuit	

TO ORDER: Substitute control option for letter "X" in basic model number;
3 = 14-28 VDC, 5 = 3-13 VDC.

HYBRID SOLID-STATE RELAY 1 1/2 amps

PCB mounted units capable of controlling inductive, capacitive, high-in-rush or resistive loads.

Special features

- 1500 VAC isolation
- On/off switching
- 1 1/2 amp rating
- PCB mounting
- Epoxy encapsulation
- 120 or 240 VAC switching capability

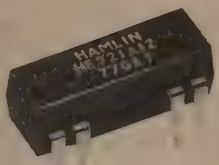
HAMLIN INC

REED SWITCHES · REED & SOLID STATE RELAYS · LIQUID CRYSTAL DISPLAYS

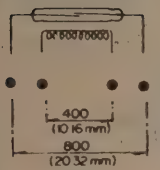
REED RELAYS







SERIES 300 | **SERIES HE 400** | **SERIES 700**

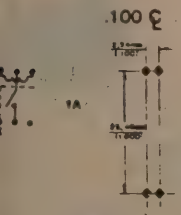


HE321A

300 SERIES — SIP (Single In-line Package)

Standard industry pin-configurations, plus available in Form B, C, Mercury wetted, and new 100 watt form A "Powerhouse."

Relay Part Number	Coil Voltage (V)	Coil Resistance (Ω) (± 10%)	Must Operate Voltage V Max.	Must Release Voltage V Min.	Contact Form	Switch Voltage Max. (V)	Switch Current Max. (A)	Switch Rating Max (W)	Min. Voltage Hold-Off VDC	Contact Resistance (Ω)	List Price
HE321A0400	5	500	3.75	0.5	1A	200	0.500	10	250	.200	$2.13
HE321A0500	5	125	3.75	0.5	1A	200	0.500	10	250	.200	2.13
HE321A1200	12	500	8.0	1.0	1A	200	0.500	10	250	.200	2.13
HE321A2400	24	2000	16.0	2.0	1A	200	0.500	10	250	.200	2.13

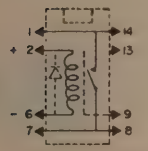


HE421A

400 SERIES — MINIATURE — HE (1" x .100" Grid)

Industry standard open frame package with the widest range of switches and options in the industry. From economy version to mercury wet, to hi-voltage, to power switch, one package will handle all of your switching needs. Up to 5 Form A or 4 Form C, with choice of .100°° or .150°° pin spacing. Options include: plastic or drawn metal cover, special schematics and a wide variety of switches.

Relay Part Number	Coil Voltage (V)	Coil Resistance (Ω) (± 10%)	Must Operate Voltage V Max.	Must Release Voltage V Min.	Contact Form	Switch Voltage Max. (V)	Switch Current Max. (A)	Switch Rating Max (W)	Min. Voltage Hold-Off VDC	Contact Resistance (Ω)	List Price
HE421A0500	5	240	3.75	0.5	1A	200	0.500	10	250	.200	2.33
HE421A1200	12	960	8.0	0.5	1A	200	0.500	10	250	.200	2.33
HE421A2400	24	3840	16.0	1.0	1A	200	0.500	10	250	.200	2.33



HE721A

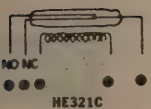
700 SERIES — DIP — Dual In-line (Industry Standard Configuration)

Hamlin 8 pin .275°° package is available in 1A, 2A, 1B, 1C inputs — 5, 12, 24 volt — standard mercury wetted — and now on all position Hg wet. Extensive testing at final inspection insures switch integrity for complete quality assurance.

Relay Part Number	Coil Voltage (V)	Coil Resistance (Ω) (± 10%)	Must Operate Voltage V Max.	Must Release Voltage V Min.	Contact Form	Switch Voltage Max. (V)	Switch Current Max. (A)	Switch Rating Max (W)	Min. Voltage Hold-Off VDC	Contact Resistance (Ω)	List Price
HE721A0500	5	500	3.75	0.5	1A	200	0.500	10	250	.200	3.40
HE721A1200	12	1000	8.0	1.0	1A	200	0.500	10	250	.200	3.40
HE721A2400	24	2150	16.0	2.0	1A	200	0.500	10	250	.200	3.40

100 Watt Power (not subjected to 1 million operations)

Relay Part Number	Coil Voltage (V)	Coil Resistance (Ω) (± 10%)	Must Operate Voltage V Max.	Must Release Voltage V Min.	Contact Form	Switch Voltage Max. (V)	Switch Current Max. (A)	Switch Rating Max (W)	Min. Voltage Hold-Off VDC	Contact Resistance (Ω)	List Price
HE361A0500	5	125	3.75	0.5	1A	200	0.500	10	250	.200	2.43
HE361A1200	12	500	9.0	1.0	1A	200	0.500	10	250	.200	2.43
HE361A2400	24	2000	18.0	2.0	1A	200	0.500	10	250	.200	2.43



HE321C

SEE 300 SERIES "FOOTPRINT"

SEE 400 SERIES "FOOTPRINT"

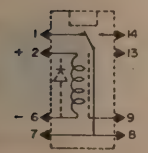
HE461A0500	5	75	3.75	0.5	1A	200	0.500	10	250	.200	2.95
HE461A1200	12	300	8.0	0.5	1A	200	0.500	10	250	.200	2.95
HE641A2400	24	1200	16.0	1.0	1A	200	0.500	10	250	.200	2.95



HE421C

FORM C SPOT PACKAGES 3 WATT 1 FORM C

Relay Part Number	Coil Voltage (V)	Coil Resistance (Ω) (± 10%)	Must Operate Voltage V Max.	Must Release Voltage V Min.	Contact Form	Switch Voltage Max. (V)	Switch Current Max. (A)	Switch Rating Max (W)	Min. Voltage Hold-Off VDC	Contact Resistance (Ω)	List Price
HE321C0500	5	125	3.75	0.5	1C	200	0.250	3	250	.200	4.80
HE321C1200	12	500	8.0	1.0	1C	200	0.250	3	250	.200	4.80
HE321C2400	24	2000	16.0	2.0	1C	200	0.250	3	250	.200	4.80
HE421C0500	5	240	3.75	0.5	1C	200	0.250	3	250	.200	6.58
HE421C1200	12	960	8.0	0.5	1C	200	0.250	3	250	.200	6.58
HE421C2400	24	3840	16.0	1.0	1C	200	0.250	3	250	.200	6.58



HE721C

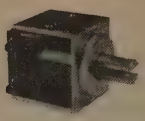
FORM C, SERIES HE721C

HE721C0500	5	200	3.75	0.5	1C	200	0.250	3	250	.200	5.95
HE721C1200	12	500	8.0	1.0	1C	200	0.250	3	250	.200	5.95
HE721C2400	24	2000	16.0	2.0	1C	200	0.250	3	250	.200	5.95

53H SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Molded polyester cover. **Weight:** Unit, 11.8 ozs; plunger, 1.8 ozs. **Mounting:** Two 8-32 tapped holes on .938″ centers on each side.

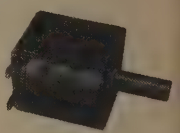
P & B Number*	Input Volts	Approx. Power	Duty Cycle	Max. On-Time Mins.	Force @ Stroke Ozs. @ Ins.		Net Each
53H-25-D	24 VDC	28 W	25%	5	128 @ .125	10 @ .750	**$5.80**
53H-100-D	24 VDC	11 W	100%	Cont.	66 @ .125	3 @ .750	**5.80**


53H Series

S4 SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 11.5 ozs; plunger, 1.8 ozs. **Mounting:** Four 8-32 tapped holes on .938″ x .500″ centers on each side.

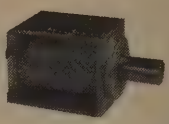
S4-25-A	120 VAC	45 VA	25%	5	42 @ .125	16 @ 1.250	**$9.00**
S4-100-A	120 VAC	10 VA	100%	Cont.	9 @ .125	3.5 @ 1.250	**9.00**
S4-25-D	24, 110 VDC	38 W	25%	5	118 @ .125	15 @ 1.000	**9.00**
S4-100-D	24, 100 VDC	11 W	100%	Cont.	65 @ .125	6 @ .875	**9.00**


S4 Series

S4H SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 12.5 ozs; plunger, 2 ozs. **Mounting:** Four 8-32 tapped holes on .938″ x .500″ centers on each side.

S4H-25-A	120 VAC	95 VA	25%	5	65 @ .125	41 @ 1.125	**$9.30**
S4H-100-A	120 VAC	28 VA	100%	Cont.	25 @ .125	15 @ 1.125	**9.30**
S4H-25-D	24, 110 VDC	40 W	25%	5	145 @ .125	7 @ 1.125	**9.30**
S4H-100-D	24, 110 VDC	11.5 W	100%	Cont.	77 @ .125	7 @ .750	**9.30**


S4H Series

S9 SERIES

C-frame, pull-on operate solenoid. **Dielectric Strength:** 900 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 2.4 ozs; plunger, 0.6 oz. **Mounting:** Two 10-32 tapped holes on .750″ centers.

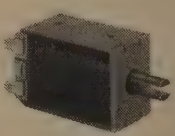
S9-25-A	120 VAC	20 VA	25%	5	32 @ .0625	6.5 @ .500	**$4.85**
S9-100-A	120 VAC	10 VA	100%	Cont.	20 @ .0625	3 @ .500	**4.85**
S9-25-D	24 VDC	10 W	25%	5	22 @ .0625	1.5 @ .500	**4.85**
S9-100-D	24 VDC	6 W	100%	Cont.	15 @ .0625	1 @ .500	**4.85**


S9 Series

S11 SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 900 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 4.7 ozs; plunger, 0.6 oz. **Mounting:** Two 6-32 tapped holes on 1.000″ centers on one side; two 6-32 tapped holes on .625″ x .812″ centers on opposite side.

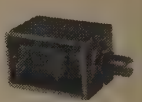
S11-20-A	24, 120 VAC	40 VA	20%	4	25 @ .125	9 @ 1.000	**$5.55**
S11-100-A	24, 120 VAC	12 VA	100%	Cont.	13 @ .125	5 @ 1.000	**5.55**
S11-20-D	6, 24 VDC	19 W	20%	5	40 @ .125	4 @ .750	**5.55**
S11-100-D	6, 24 VDC	8 W	100%	Cont.	24 @ .125	2 @ .750	**5.55**


S11 Series

S22 SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 900 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 1.7 ozs; plunger, 0.25 oz. **Mounting:** Two 4-40 tapped holes on .468″ x .625″ centers.

S22-25-A	120 VAC	12 VA	25%	4	17 @ .0625	3.5 @ .500	**$5.00**
S22-100-A	120 VAC	5 VA	100%	Cont.	10 @ .0625	1.8 @ .500	**5.00**
S22-25-D	6, 24 VDC	9 W	25%	5	20 @ .0625	1.4 @ .4375	**5.00**
S22-100-D	6, 24 VDC	4 W	100%	Cont.	13 @ .0625	1.2 @ .4375	**5.00**


S22 Series

S24 SERIES

C-frame, pull-on operate solenoid. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Molded polyester cover. **Weight:** Unit, 2.2 ozs; plunger, 0.4 oz. **Mounting:** Two 6-32 tapped holes on .438″ x .500″ centers.

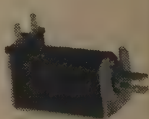
S24-20-A	24, 120 VAC	18 VA	20%	4	14 @ .125	3 @ .625	**$3.45**
S24-100-A	24, 120 VAC	7 VA	100%	Cont.	9 @ .125	1.5 @ .625	**3.45**
S24-20-D	6, 12, 24 VDC	12 W	20%	4	27 @ .0625	2 @ .500	**3.45**
S24-100-D	6, 12, 24 VDC	5 W	100%	Cont.	15 @ .0625	1.25 @ .500	**3.45**


S24 Series

S26 SERIES

C-frame, pull-on operate solenoids. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Molded polyester cover. **Weight:** Unit, 3.5 ozs; plunger, 0.6 oz. **Mounting:** Two 6-32 tapped holes on .438″ x .500″ centers.

S26-20-A	24, 120 VAC	21 VA	20%	4	27 @ .0625	2 @ 1.000	**$3.45**
S26-100-A	24, 120 VAC	10 VA	100%	Cont.	12.5 @ .0625	4 @ .625	**3.45**
S26-20-D	6, 12, 24 VDC	18 W	20%	4	46 @ .0625	3 @ .750	**3.45**
S26-100-D	6, 12, 24 VDC	7 W	100%	Cont.	30 @ .0625	2.5 @ .500	**3.45**


S26 Series

S28 SERIES

Box frame, pull-on operate solenoid. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil: Finish:** Molded polyester cover. **Weight:** Unit, 3.2 ozs; plunger, 0.5 oz. **Mounting:** Two 6-32 tapped holes on .625″ x .406″ centers.

S28-25-A	24, 120 VAC	16.5 VA	25%	5	31 @ .0625	6 @ .500	**$3.90**
S28-100-A	24, 120 VAC	8 VA	100%	Cont.	20 @ .0625	3 @ .500	**3.90**
S28-25-D	6, 12, 24 VDC	11.5 W	25%	5	37 @ .0625	2 @ .500	**3.90**
S28-100-D	6, 12, 24 VDC	5.5 W	100%	Cont.	25 @ .0625	1 @ .500	**3.90**


S28 Series

S28H SERIES

Box frame, pull-on operate solenoids. **Dielectric Strength:** 1200 VAC, rms, 60 Hz. **Coil Finish:** Molded polyester cover. **Weight:** Unit, 4.3 ozs; plunger, 0.87 oz. **Mounting:** Two 6-32 tapped holes on .625″ x .500″ centers.

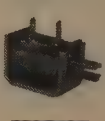
S28H-25-A	24, 120 VAC	19 VA	25%	5	35 @ .0625	12 @ .500	**$4.60**
S28H-100-A	24, 120 VAC	11 VA	100%	Cont.	20 @ .0625	7 @ .500	**4.60**
S28H-25-D	6, 12, 24 VDC	11 W	25%	5	56 @ .0625	3.5 @ .500	**4.60**
S28H-100-D	6, 12, 24 VDC	6.5 W	100%	Cont.	35 @ .0625	1.5 @ .500	**4.60**


S28H Series

S34 SERIES

C-frame, pull-on operate solenoids. **Dielectric Strength:** 900 VAC, rms, 60 Hz. **Coil Finish:** Acetate yarn. **Weight:** Unit, 2.5 ozs; plunger, 0.4 oz. **Mounting:** Two 6-32 tapped holes on .437″ x .500″ centers.

S34-25-A	120 VAC	14 VA	25%	3.5	21 @ .0625	4 @ .500	**$4.40**
S34-100-A	120 VAC	7 VA	100%	Cont.	11.5 @ .0625	1.5 @ .500	**4.40**
S34-25-D	24 VDC	10 W	25%	4	36 @ .0312	4 @ .250	**4.40**
S34-100-D	24 VDC	5 W	100%	Cont.	24 @ .0312	2 @ .250	**4.40**

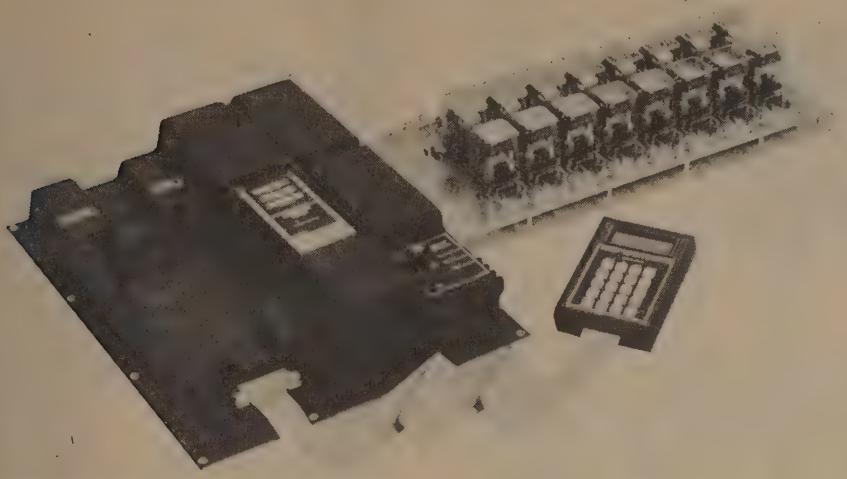

S34 Series

PRICES SHOWN ARE FOR REFERENCE ONLY

*Specify coil voltage when ordering.

AMF | POTTER & BRUMFIELD SEQUENCE TIMER

VERSATILE MICROPROCESSOR BASED PROGRAMMABLE SEQUENCE TIMER



Microprocessor based Programmable Sequence Timer is designed or a wide variety of applications which are intermediate between hose of electromechanical cam sequencers and programmable ontrollers. The system, consisting of QL08 logic module, QR08 utput module, QS08 programmer and QC08 interconnection able, provides accurate, reliable control of operations which can e established as a series of steps. Both the duration of the steps nd the sequence of the steps can be precisely controlled. Changes n the sequence can be made simply and rapidly in the field, using he removable programmer. Use of relays with 2 Form C, 10 mpere contacts as outputs, allows programmable sequence timer o interface directly with many loads. Programs may be entered and changed easily. Programming the programmable sequence timer is quick and simple. The 29 start/stop times (Channels 0-28) are allocated among the 16 output relays as follows: output relay 1, 8 start/stop times (channels 0–7); output relay 2, 4 start/stop times (channels 8–11); output relay 3, 4 start/stop times (channels 12–15); output relays 4–16, 1 start/stop time each (channels 16–28). The 16 output relays may be programmed by following basic instructions (supplied with the system). **Input Voltage:** 96–132 VAC, 60 Hz. **Input Current:** 1.3 amperes max. with all relays operating; 490 mA max. on standby. **Operating Temperature:** 0° to 55° C.

QS08-1000 PROGRAM MODULE

rograms may be entered and changed quickly and easily using he QS08. Once the programming has been completed and the nit has begun sequencing, the programmer may be disconnected nd removed, if desired, allowing the QS08 to be used with several gic modules; also prevents program tampering. **Approx. Size Max.):** 5.75″ h. x 3.6″ w. x 1.12″ d.

QL08-1000 LOGIC MODULE

he QL08 logic module, with its 29 independent channels, is pro-rammable in either minutes or seconds, and can control as many s 16 output relays. A programmable "wait" feature allows a wait" to be inserted in the program at the end of any stop time, ith a 120 V, 60 Hz pulse required to reinitiate sequencing. The QL08 utilizes a non-volatile, electrically alterable read only emory which needs no battery backup for memory retention uring power failures. Should a power interruption occur, the QL08 remembers its location in the sequence; sequencing can re-ume at that point when power is restored. Models without auto-natic start-up feature available on request. **Max. Cycle Duration:** Minutes mode, 99.9 min.; seconds mode, 99.9 sec. **Resolution:** Minutes mode, 0.1 min.; seconds mode, 0.1 sec. **Max. Number of Start/Stop Times:** Output 1, 8; output 2, 4; outputs 3, 4; outputs –16, 1 each. **Approx. Size (Max.):** 15.75″ h. x 12.65″ w. x 3.5″ d.

QR08-1000 OUTPUT MODULE

The QR08 output module interfaces directly with loads by means of 16 UL recognized KU, 2 Form C, DPDT relays. Each relay has a LED wired in parallel with its coil to indicate operation. Other output modules available on request. **UL Rating:** ¼ hp at 120 VAC; ½ hp at 240 VAC; 10 amperes at 28 VDC or 240 VAC, 80% P.F.; 10 FLA, 30 LRA at 125 VAC; 5 FLA, 15 LRA at 250 VAC. **Life Expectancy:** Mechanical, 10 million operations, min.; electrical, 100,000 operations, min., at rated load. **Approx. Time Values:** Operate, 15 msec.; release, 10 msec. **Termination:** .250″ quick-connect terminals. **Approx. Size (Max.):** 8.3″ h. x 17.8″ w. x 2.5″ d.

QC08 INTERCONNECTION CABLE

The QC08 cable is a 5-ft. ribbon cable with a card edge connector at each end. QC08 is required to connect QL08 logic module to QR08 output module.

AMF Number	Description	Net Each, Lots of		
		1-9	10-49	50-99
QL08-1000	Logic module	$594.40	$549.82	$505.24
QR08-1000	Output module	337.90	312.47	287.13
QS08-1000	Programmer module	81.05	74.97	68.89
QC08-1000	Interconnection cable	33.45	30.94	28.43

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WE CAN SUPPLY ALL YOUR REQUIREMENTS

FOR INDUSTRIAL ELECTRONIC PARTS AND EQUIPMENT.

WE OFFER COMPLETE BROAD LINE, IN-DEPTH INVENTORIES FOR INDUSTRIAL QUANTITY CONVENIENCE, PLUS FAST DELIVERY.

AS NEW PRODUCTS ARE DEVELOPED, WE WILL HAVE THEM AVAILABLE.

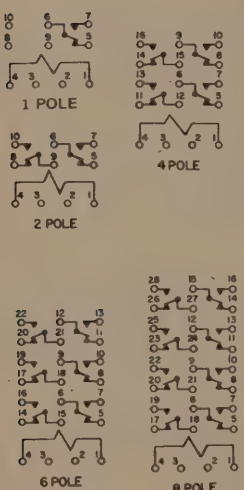
CALL OR WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

GENERAL PURPOSE RELAYS



R10-E1

R10 Series: All models are UL recognized and models up to 6PDT have CSA recognition. Contact ratings shown are for 28 VDC or 115 VAC, resistive; maximum current is shown in parentheses. **E1** relays have solder/plug-in terminals and 3-48 stud; **E2** relays have PC board terminals; **E6** relays have solder/plug-in terminals and mounting bracket with 6-32 stud and locating tab on .437" ctrs. **J** relays are DC current actuated; **SS** relays are sensitive DC voltage actuated; **V** relays are DC voltage actuated. All have clear polycarbonate cover. **Size:** .735" x 1.187" x .95" to 1.380" depending on contact arrangement. **Weight:** 0.8 to 1.4 ozs.

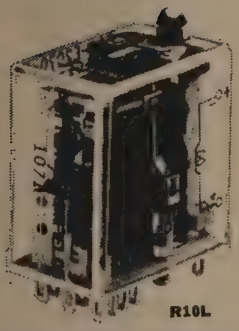


P & B Number	Coil Input	Contacts Arrangement	Contacts Amps, Typ. (Max.)	Net Each, Lots of★ 1-9	10-49	50-99
R10-E1-L2-V185	12 VDC	DPDT	0.0005(0.25)	$ 9.55	$ 8.60	$ 7.64
R10-E1-L2-V700	24 VDC	DPDT	0.0005(0.25)	9.55	8.60	7.64
R10-E1-L2-115V	115 VAC	DPDT	0.0005(0.25)	14.70	13.23	11.76
R10-E1-L4-V185	12 VDC	4PDT	0.0005(0.25)	13.45	12.11	10.76
R10-E1-L4-V700	24 VDC	4PDT	0.0005(0.25)	13.45	12.11	10.76
R10-E1-L4-115V	115 VAC	4PDT	0.0005(0.25)	20.15	18.14	16.12
R10-E1-W4-V185	12 VDC	4PDT	7.5(10)	9.85	8.87	7.88
R10-E1-W4-V700	24 VDC	4PDT	7.5(10)	9.70	8.73	7.76
R10-E1-Y1-SS1.0K	6 VDC	8PDT	2(3)	7.75	6.98	6.20
R10-E1-Y1-SS128	3 VDC	8PDT	2(3)	7.75	6.98	6.20
R10-E1-Y2-V28	5 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E1-Y2-V52	6 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E1-Y2-V185	12 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E1-Y2-V700	24 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E1-Y2-V2.5K	48 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E1-Y2-V15.0K	115 VDC	DPDT	2(3)	8.30	7.47	6.64
R10-E1-Y2-S800	12 VDC	DPDT	2(3)	6.75	6.08	5.40
R10-E1-Y2-115V	115 VAC	DPDT	2(3)	11.35	10.22	9.08
R10-E1-Y4-V52	6 VDC	4PDT	2(3)	6.85	6.17	5.48
R10-E1-Y4-V185	12 VDC	4PDT	2(3)	6.85	6.17	5.48
R10-E1-Y4-V700	24 VDC	4PDT	2(3)	6.85	6.17	5.48
R10-E1-Y4-V2.5K	48 VDC	4PDT	2(3)	6.85	6.17	5.48
R10-E1-Y4-V15.0K	115 VDC	4PDT	2(3)	9.40	8.46	7.52
R10-E1-Y6-V25	6 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E1-Y6-V90	12 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E1-Y6-V430	24 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E1-Y6-V1.5K	48 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E1-Y6-9.0K	115 VDC	6PDT	2(3)	11.70	10.53	9.36
R10-E1-M2-V700	24 VDC	DPDT	5(7.5)	7.10	6.39	5.68
R10-E1-M4-V700	24 VDC	4PDT	5(7.5)	9.85	8.87	7.88
R10-E1-X2-V28	5 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E1-X2-V52	6 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E1-X2-V185	12 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E1-X2-V700	24 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E1-X2-V2.5K	48 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E1-X2-V15.0K	115 VDC	DPDT	5(7.5)	8.75	7.88	7.00
R10-E1-X2-S800	12 VDC	DPDT	5(7.5)	7.25	6.53	5.80
R10-E1-X4-V52	6 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E1-X4-V185	12 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E1-X4-V700	24 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E1-X4-V2.5K	48 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E1-X4-V15.0K	115 VDC	4PDT	5(7.5)	10.30	9.27	8.24
R10-E1-X6-V25	6 VDC	6PDT	5(7.5)	11.55	10.40	9.24
R10-E1-X6-V90	12 VDC	6PDT	5(7.5)	11.55	10.40	9.24
R10-E1-X6-V430	24 VDC	6PDT	5(7.5)	11.55	10.40	9.24
R10-E1-X6-V1.5K	48 VDC	6PDT	5(7.5)	11.55	10.40	9.24
R10-E1-X6-V9.0K	115 VDC	6PDT	5(7.5)	13.10	11.79	10.48
R10-E1-W2-V185	12 VDC	DPDT	7.5(10)	7.15	6.44	5.72
R10-E1-W2-V700	24 VDC	DPDT	7.5(10)	7.15	6.44	5.72
R10-E1-Z2-V52	6 VDC	DPDT	0.1(2)	6.45	5.81	5.16
R10-E1-Z2-V185	12 VDC	DPDT	0.1(2)	6.45	5.81	5.16
R10-E1-Z2-V700	24 VDC	DPDT	0.1(2)	6.45	5.81	5.16
R10-E1-Z2-V2.5K	48 VDC	DPDT	0.1(2)	6.45	5.81	5.16
R10-E1-Z2-V15.0K	115 VDC	DPDT	0.1(2)	9.00	8.10	7.20
R10-E1-Z2-S800	12 VDC	DPDT	0.1(2)	7.50	6.75	6.00
R10-E1-Z2-115V	115 VAC	DPDT	0.1(2)	12.10	10.89	9.68
R10-E1-Z4-V52	6 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E1-Z4-V185	12 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E1-Z4-V700	24 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E1-Z4-V2.5K	48 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E1-Z4-V15.0K	115 VDC	4PDT	0.1(2)	10.85	9.77	8.68
R10-E1-Z6-V25	6 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E1-Z6-V90	12 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E1-Z6-V430	24 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E1-Z6-V1.5K	48 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E1-Z6-V9.0K	115 VDC	6PDT	0.1(2)	13.90	12.51	11.12
R10-E1-Y2-J1.0K	8.5 mA	DPDT	2(3)	6.75	6.08	5.40
R10-E1-Y2-J2.5K	5.8 mA	DPDT	2(3)	6.95	6.26	5.56
R10-E1-Y2-J5.0K	4.1 mA	DPDT	2(3)	8.00	7.20	6.40
R10-E1-Y2-J10.0K	3.1 mA	DPDT	2(3)	8.10	7.29	6.48
R10-E1-Y4-J2.5K	8.4 mA	4PDT	2(3)	8.20	7.38	6.56
R10-E1-Y4-J5.0K	6.2 mA	4PDT	2(3)	9.50	8.55	7.60
R10-E1-Y4-J10.0K	4.5 mA	4PDT	2(3)	9.50	8.55	7.60
R10-E1-Z4-J1.0K	13.0 mA	4PDT	0.1(2)	9.65	8.69	7.72
R10-E1-Z4-J2.5K	8.4 mA	4PDT	0.1(2)	9.65	8.69	7.72
R10-E1-Z4-J5.0K	6.2 mA	4PDT	0.1(2)	10.95	9.86	8.76
R10-E1-X2-115V	115 VAC	DPDT	5(7.5)	12.00	10.80	9.60
R10-E1-X4-115V	115 VAC	4PDT	5(7.5)	14.45	13.01	11.56
R10-E1-X6-115V	115 VAC	6PDT	5(7.5)	19.30	17.37	15.44
R10-E1-X8-115V	115 VAC	8PDT	5(7.5)	19.00	17.10	15.20
R10-E2-W2-V185	12 VDC	DPDT	7.5(10)	7.10	6.39	5.68
R10-E2-W2-V700	24 VDC	DPDT	7.5(10)	7.15	6.44	5.72
R10-E2-X2-V28	5 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E2-X2-V185	12 VDC	DPDT	5(7.5)	6.05	5.45	4.84
R10-E2-X2-V700	24 VDC	DPDT	5(7.5)	6.20	5.58	4.96
R10-E2-X2-S3.2K	24 VDC	DPDT	5(7.5)	7.25	6.53	5.80
R10-E2-X2-115V	115 VAC	DPDT	5(7.5)	11.85	10.67	9.48
R10-E2-X4-V185	12 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E2-X4-V700	24 VDC	4PDT	5(7.5)	7.75	6.98	6.20
R10-E2-Y2-V28	5 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E2-Y2-V185	12 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E2-Y2-V700	24 VDC	DPDT	2(3)	5.75	5.18	4.60
R10-E2-Y4-V185	12 VDC	4PDT	2(3)	6.85	6.17	5.48
R10-E2-Y4-V700	24 VDC	4PDT	2(3)	6.85	6.17	5.48

★ LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY

SEE ANOTHER P & B PAGE FOR ACCESSORIES

GENERAL PURPOSE RELAYS (CONT'D.)

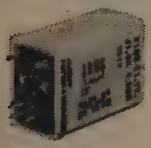


R10L

R10L Series: With light-emitting diode in parallel with coil. Available in solder, **E1**, and PC board, **E2**, terminals.

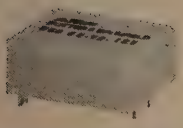
P & B Number	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ. (Max.)	Net Each, Lots of★: 1-9	10-49	50-99
R10-E2-Y6-V90	12 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E2-Y6-V410	24 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E2-Y6-V1.5K	48 VDC	6PDT	2(3)	10.15	9.14	8.12
R10-E2-Z4-V185	12 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E2-Z4-V700	24 VDC	4PDT	0.1(2)	8.30	7.47	6.64
R10-E2-Z4-J2.5K	8.4 mA	4PDT	0.1(2)	9.65	8.69	7.72
R10-E2-Z4-J5.0K	6.2 mA	4PDT	0.1(2)	10.95	9.86	8.76
R10-E2-Z6-V90	12 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E2-Z6-V410	24 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E2-Z6-V1.5K	48 VDC	6PDT	0.1(2)	12.35	11.12	9.88
R10-E6-X2-V52	6 VDC	DPDT	5(7.5)	6.70	6.03	5.36
R10-E6-X2-V185	12 VDC	DPDT	5(7.5)	6.70	6.03	5.36
R10-E6-X2-V700	24 VDC	DPDT	5(7.5)	6.70	6.03	5.36
R10-E6-X2-115V	115 VAC	DPDT	5(7.5)	12.50	11.25	10.00
R10-E6-X4-V185	12 VDC	4PDT	5(7.5)	8.25	7.43	6.60
R10-E6-X4-V700	24 VDC	4PDT	5(7.5)	8.25	7.43	6.60
R10-E6-X4-115V	115 VAC	4PDT	5(7.5)	14.95	13.46	11.96
R10-E6-Y2-V185	12 VDC	DPDT	2(3)	6.25	5.63	5.00
R10-E6-Y2-V700	24 VDC	DPDT	2(3)	6.25	5.63	5.00
R10-E6-Y4-V185	12 VDC	4PDT	2(3)	7.35	6.62	5.88
R10-E6-Y4-V700	24 VDC	4PDT	2(3)	7.35	6.62	5.88
R10L-E1-X2-V185	12 VDC	DPDT	5(7.5)	10.85	9.77	8.68
R10L-E1-X2-V700	24 VDC	DPDT	5(7.5)	10.85	9.77	8.68
R10L-E1-X4-V185	12 VDC	4PDT	5(7.5)	12.40	11.16	9.92
R10L-E1-X4-V700	24 VDC	4PDT	5(7.5)	12.40	11.16	9.92
R10L-E1-X4-V2.5K	48 VDC	4PDT	5(7.5)	12.40	11.16	9.92
R10L-E1-X6-V410	24 VDC	6PDT	5(7.5)	16.20	14.58	12.96
R10L-E1-Y2-V52	6 VDC	DPDT	2(3)	10.40	9.36	8.32
R10L-E1-Y2-V185	12 VDC	DPDT	2(3)	10.40	9.36	8.32
R10L-E1-Y2-V700	24 VDC	DPDT	2(3)	10.40	9.36	8.32
R10L-E1-Y2-V2.5K	48 VDC	DPDT	2(3)	10.40	9.36	8.32
R10L-E1-Y4-V52	6 VDC	4PDT	2(3)	11.50	10.35	9.20
R10L-E1-Y4-V185	12 VDC	4PDT	2(3)	11.50	10.35	9.20
R10L-E1-Y4-V700	24 VDC	4PDT	2(3)	11.50	10.35	9.20
R10L-E1-Y6-V410	24 VDC	6PDT	2(3)	14.80	13.32	11.84
R10L-E1-Z4-V700	24 VDC	4PDT	0.1(2)	12.95	11.66	10.36
R10L-E2-Y2-V185	12 VDC	DPDT	2(3)	10.40	9.36	8.32
R10L-E2-Y4-V700	24 VDC	4PDT	2(3)	11.50	10.35	9.20

R10S Series: Very sensitive, current actuated DC relays for direct drive from TTL, CMOS, ECL, and HTL. Available in solber, **E1**, and PC board, **E2**, terminals.



R10S

P & B Number	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ. (Max.)	Net Each, Lots of★: 1-9	10-49	50-99
R10S-E1-Y1-J1.0K	3.2 mA	SPDT	2(3)	$ 8.10	$7.29	$6.48
R10S-E1-Y1-J2.5K	2.0 mA	SPDT	2(3)	8.10	7.29	6.48
R10S-E1-Y1-J5.0K	1.4 mA	SPDT	2(3)	9.25	8.33	7.40
R10S-E1-Y2-J1.0K	4.5 mA	DPDT	2(3)	8.95	8.06	7.16
R10S-E1-Y2-J2.5K	2.9 mA	DPDT	2(3)	8.95	8.06	7.16
R10S-E1-Y2-J5.0K	2.0 mA	DPDT	2(3)	10.10	9.09	8.08
R10S-E1-Y4-J1.0K	6.5 mA	4PDT	2(3)	10.35	9.32	8.28
R10S-E2-Y1-J1.0K	3.2 mA	SPDT	2(3)	8.10	7.29	6.48
R10S-E2-Y1-J2.5K	2.0 mA	SPDT	2(3)	8.10	7.29	6.48
R10S-E2-Y1-J5.0K	1.4 mA	SPDT	2(3)	9.25	8.33	7.40
R10S-E2-Y2-J2.5K	2.9 mA	DPDT	2(3)	8.95	8.06	7.16
R10S-E2-Y4-J1.0K	6.5 mA	4PDT	2(3)	10.35	9.32	8.28



R50

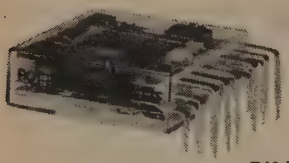
R50 Series: Small, low profile printed-circuit relays have UL recognition and seat only .460" high. Have molded polyester case and gold-plated PC terminals spaced on 0.1" grid. **Contact Rating:** R50, 2 amps at 28 VDC or 1 amp at 120 VAC, resistive; R50S, 1 amp at 28 VDC or 0.5 amp at 120 VAC, resistive; R50-X1, 5 amps at 28 VDC or 2.5 amps at 120 VAC, resistive. **Weight:** R50-Y1, 0.3 oz; R50-Y2 and R50-X1, 0.5 oz. **Size:** R50-X, 1.285" x .795" x .500"; R50-Y, 1.09" x .595" x .460".

P & B Number	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ. (Max.)	Net Each, Lots of★: 1-9	10-49	50-99
R50-E2-Y1-5V	5 VDC	SPDT	2(3)	$3.85	$3.47	$3.08
R50-E2-Y1-6V	6 VDC	SPDT	2(3)	3.85	3.47	3.08
R50-E2-Y1-12V	12 VDC	SPDT	2(3)	3.85	3.47	3.08
R50-E2-Y1-24V	24 VDC	SPDT	2(3)	4.15	3.74	3.32
R50-E2-Y1-48V	48 VDC	SPDT	2(3)	4.75	4.28	3.80
R50-E2-Y2-5V	5 VDC	DPDT	2(3)	5.15	4.64	4.12
R50-E2-Y2-6V	6 VDC	DPDT	2(3)	5.15	4.64	4.12
R50-E2-Y2-12V	12 VDC	DPDT	2(3)	5.15	4.64	4.12
R50-E2-Y2-24V	24 VDC	DPDT	2(3)	5.25	4.73	4.20
R50-E2-Y2-48V	48 VDC	DPDT	2(3)	6.20	5.58	4.96
R50-E2-X1-5V	5 VDC	SPDT	5(6)	4.60	4.14	3.68
R50-E2-X1-6V	6 VDC	SPDT	5(6)	4.60	4.14	3.68
R50-E2-X1-12V	12 VDC	SPDT	5(6)	4.60	4.14	3.68
R50-E2-X1-24V	24 VDC	SPDT	5(6)	4.90	4.41	3.92
R50S-E2-Y1-5V	5 VDC	SPDT	1(2)	3.75	3.38	3.00
R50S-E2-Y1-6V	6 VDC	SPDT	1(2)	3.75	3.38	3.00
R50S-E2-Y1-12V	12 VDC	SPDT	1(2)	3.75	3.38	3.00
R50S-E2-Y1-24V	24 VDC	SPDT	1(2)	4.00	3.60	3.20
R50S-E2-Y2-5V	5 VDC	DPDT	1(2)	4.80	4.32	3.84
R50S-E2-Y2-6V	6 VDC	DPDT	1(2)	4.80	4.32	3.84
R50S-E2-Y2-12V	12 VDC	DPDT	1(2)	4.80	4.32	3.84
R50S-E2-Y2-24V	24 VDC	DPDT	1(2)	5.00	4.50	4.00

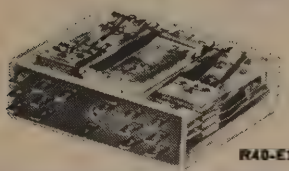
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GENERAL PURPOSE RELAYS



R40-E3

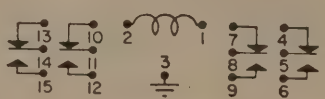


R40-E1

R40 Series: Slimline relays designed for flat PC board mounting have UL and CSA recognition. Available with solder/plug-in, PC board, or right-angle PC board terminals. A variety of contact styles provide switching from dry circuit to 7.5 amps at 28 VDC or 115 VAC, resistive. Bifurcated contacts for low level applications or cross bar contacts for dry circuit use are available. Clear polycarbonate cover. **E1** relays have solder/plug-in terminals; **E2** relays have PC board terminals; **E3** relays have right-angle PC board terminals. **Size:** 1.4" x 1.2" x .430". **Weight:** 0.8 to 1.05 ozs.

P & B Number	Coil Input	Contacts: Arrangement	Contacts: Amps,* Typ. (Max.)	Net Each, Lots of★: 1-9	10-49	50-99
R40-E1-X4-V200	12 VDC	4PDT	5(7.5)	$12.15	$10.94	$ 9.72
R40-E1-X4-V800	24 VDC	4PDT	5(7.5)	12.15	10.94	9.72
R40-E1-Y4-V50	6 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E1-Y4-V200	12 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E1-Y4-V800	24 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E1-Y4-V3.2K	48 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E1-Z4-V200	12 VDC	4PDT	0.1(2)	12.75	11.48	10.20
R40-E1-Z4-V800	24 VDC	4PDT	0.1(2)	12.75	11.48	10.20
R40-E1-L4-V200	12 VDC	4PDT	0.0005(.25)	17.75	15.98	14.20
R40-E1-L4-V800	24 VDC	4PDT	0.0005(.25)	17.75	15.98	14.20
R40-E2-X4-V50	6 VDC	4PDT	5(7.5)	12.15	10.94	9.72
R40-E2-X4-V200	12 VDC	4PDT	5(7.5)	12.15	10.94	9.72
R40-E2-X4-V800	24 VDC	4PDT	5(7.5)	12.15	10.94	9.72
R40-E2-Y4-V200	12 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E2-Y4-V800	24 VDC	4PDT	2(3)	11.25	10.13	9.00
R40-E2-Z4-V200	12 VDC	4PDT	0.1(2)	12.75	11.48	10.20
R40-E3-X4-V200	12 VDC	4PDT	5(7.5)	12.70	11.43	10.16
R40-E3-X4-V800	24 VDC	4PDT	5(7.5)	12.70	11.43	10.16
R40-E3-Y4-V200	12 VDC	4PDT	2(3)	11.80	10.62	9.44
R40-E3-Y4-V800	24 VDC	4PDT	2(3)	11.80	10.62	9.44
R40-E3-Y4-V3.2K	48 VDC	4PDT	2(3)	11.80	10.62	9.44
R40-E3-Z4-V200	12 VDC	4PDT	0.1(2)	13.30	11.97	10.64
R40-E3-Z4-V800	24 VDC	4PDT	0.1(2)	13.30	11.97	10.64
R40-E3-L4-V200	12 VDC	4PDT	0.0005(.25)	18.30	16.47	14.64
R40-E3-L4-V800	24 VDC	4PDT	0.0005(.25)	18.30	16.47	14.64

*For 28 VDC or 115 VAC, resistive.



R40

GENERAL PURPOSE RELAYS



K10

K10 Series: Relays offer reliable DPDT, 10 amp switching capability in a compact package. Recognized under the component program of UL and CSA certified. Enclosed in smoke colored polycarbonate covers with .187" quick-connect terminals which also fit available sockets. The silver cadmium oxide are rated 10 amps at 30 VDC, resistive, or 277 VAC; ½ H.P. at 250 VAC; ⅓ H.P. at 120 VAC.

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Max.	Net Each, Lots of★: 1-24	25-50	51-99
K10P11A15	6, 12, 24, 48, 120 VAC	DPDT	10	$6.75	$6.41	$6.08
K10P11D15	6, 12, 24 VDC	DPDT	10	6.05	5.75	5.45
K10P11D15	90 VDC	DPDT	10	6.70	6.37	6.03
K10P11D115	115 VDC	DPDT	10	7.10	6.75	6.39

*Specify coil voltage when ordering.

TELEPHONE TYPE RELAYS



MH

MH Series: Miniature relay ideal for applications where space and weight are factors. Open models have pierced solder terminals; all other have hook solder terminals. **Contacts:** Gold-flashed silver. **Mounting:** MH11L, 6-32 stud and locating tab; MH17D and MH23D, four 3-48 tapped holes on .375" x .375" ctrs; sealed models with **M** suffix, three 6-32 studs on 1.25" x .50" ctrs; sealed models with **D** suffix, three 6-32 studs on 1.188" x .938" ctrs. **Weight:** Open models, 2.5 ozs; sealed models, 5 oz. **Size:** 1.63" lg. x 0.75" w. x 1.531" h. max.

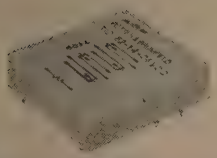
P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Max.	Net Each, Lots of★: 1-24	25-50	51-99
MH11L	4.5 mA	DPDT	3	$23.25	$22.09	$20.93
MH17D	6, 12, 24 VDC	4PDT	5	25.75	24.46	23.18
MH17DM*	12, 24 VDC	4PDT	5	50.60	48.07	45.54
MH17AMR*	120 VAC	4PDT	5	65.75	62.46	59.18
MH23D	12, 24 VDC	6PDT	5	36.50	34.68	32.85
MH23DD*	24 VDC	6PDT	5	70.00	66.50	63.00

*Sealed relay. *Specify coil voltage when ordering.

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SEE ANOTHER P & B PAGE FOR ACCESSORIES

GENERAL PURPOSE RELAYS



T10

T10 Series: DPDT and 4PDT models have UL recognition. Polycarbonate cover snaps into place. Seats only .425" high for close spacing of PC boards. **Contacts:** Suffix **Y**, gold-clad silver rated 3 amps at 28 VDC or 120 VAC, resistive; suffix **Z**, gold-clad silver, bifurcated, rated 1 amp at 60 VDC or 120 VAC, resistive. **Size:** 1.48" x .425" x 1.24" to 1.84" depending on contact arrangement. **Weight:** Approx. 1.06 oz.

P & B Number	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ. (Max.)	Net Each, Lots of★: 1-9	10-49	50-99
T10-E2-Y2-5V	5 VDC	DPDT	3(4)	$ 5.80	$ 5.22	$4.64
T10-E2-Y2-6V	6 VDC	DPDT	3(4)	5.80	5.22	4.64
T10-E2-Y2-12V	12 VDC	DPDT	3(4)	5.80	5.22	4.64
T10-E2-Y2-24V	24 VDC	DPDT	3(4)	5.80	5.22	4.64
T10-E2-Y2-48V	48 VDC	DPDT	3(4)	7.00	6.30	5.60
T10-E2-Z2-5V	5 VDC	DPDT	1(2)	6.25	5.63	5.00
T10-E2-Z2-6V	6 VDC	DPDT	1(2)	6.25	5.63	5.00
T10-E2-Z2-12V	12 VDC	DPDT	1(2)	6.25	5.63	5.00
T10-E2-Z2-24V	24 VDC	DPDT	1(2)	6.25	5.63	5.00
T10-E2-Z2-48V	48 VDC	DPDT	1(2)	7.45	6.71	5.96
T10-E2-Y4-6V	6 VDC	4PDT	3(4)	6.60	5.94	5.28
T10-E2-Y4-12V	12 VDC	4PDT	3(4)	6.60	5.94	5.28
T10-E2-Y4-24V	24 VDC	4PDT	3(4)	6.60	5.94	5.28
T10-E2-Y4-48V	48 VDC	4PDT	3(4)	8.45	7.61	6.76
T10-E2-Z4-6V	6 VDC	4PDT	1(2)	7.50	6.75	6.00
T10-E2-Z4-12V	12 VDC	4PDT	1(2)	7.50	6.75	6.00
T10-E2-Z4-24V	24 VDC	4PDT	1(2)	7.50	6.75	6.00
T10-E2-Z4-48V	48 VDC	4PDT	1(2)	9.35	8.42	7.48
T10-E2-Y6-6V	6 VDC	6PDT	3(4)	8.90	8.01	7.12
T10-E2-Y6-12V	12 VDC	6PDT	3(4)	8.90	8.01	7.12
T10-E2-Y6-24V	24 VDC	6PDT	3(4)	8.90	8.01	7.12
T10-E2-Y6-48V	48 VDC	6PDT	3(4)	10.90	9.81	8.72
T10-E2-Z6-6V	6 VDC	6PDT	1(2)	10.25	9.23	8.20
T10-E2-Z6-12V	12 VDC	6PDT	1(2)	10.25	9.23	8.20
T10-E2-Z6-24V	24 VDC	6PDT	1(2)	10.25	9.23	8.20
T10-E2-Z6-48V	48 VDC	6PDT	1(2)	12.25	11.03	9.80



KUP
KUMP

KUP and KUMP Series: Relays have polycarbonate covers. UL recognized and CSA listed. Models with suffix **25** have push-to-test button to manually actuate contacts; models with suffix **35** have neon lamp to indicate coil power; models with suffix **45** have both button and lamp. **Contact Rating:** KUP with suffix **11**, 5 amps at 28 VDC or 240 VAC; all other KUP models, 10 amps at 28 VDC or 240 VAC. KUMP models, 15 amps at 277 VAC. **Terminals:** .187" quick-connect/solder. **Mounting:** KUP with suffix **55**, bracket mounted; all others use sockets and hold-down springs. **Weight:** 3 ozs.

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of★: 1-24	25-50	51-99
KUEP3A15	120 VAC	SPST	10	$ 8.35	$ 7.93	$ 7.52
KUEP3D15	24 VDC	SPST	10	8.05	7.65	7.25
KUMP11A18	6, 12, 24, 120 VAC	DPDT	15	8.95	8.50	8.06
KUMP11A18	240 VAC	DPDT	15	10.05	9.55	9.05
KUMP11D18	5, 6, 12, 24 VDC	DPDT	15	8.25	7.84	7.43
KUMP11D18	110 VDC	DPDT	15	10.10	9.60	9.09
KUP5A15	6, 12, 24, 120 VAC	SPDT	10	6.60	6.27	5.94
KUP5A15	240 VAC	SPDT	10	7.70	7.32	6.93
KUP5D15	5, 6, 12, 24 VDC	SPDT	10	6.35	6.03	5.72
KUP5D15	110 VDC	SPDT	10	8.20	7.79	7.38
KUP11A11	120 VAC	DPDT	5	7.85	7.46	7.07
KUP11D11	24 VDC	DPDT	5	6.90	6.56	6.21
KUP11A15	6, 12, 24, 120 VAC	DPDT	10	7.75	7.38	6.98
KUP11A15	240 VAC	DPDT	10	8.85	8.41	7.97
KUP11D15	5, 6, 12, 24 VDC	DPDT	10	6.80	6.46	6.12
KUP11D15	110 VDC	DPDT	10	8.65	8.22	7.79
KUP11A35	6, 12 24 VAC	DPDT	10	10.55	10.02	9.50
KUP11A35	120 VAC	DPDT	10	9.15	8.69	8.24
KUP11D35	12, 24 VDC	DPDT	10	9.60	9.12	8.64
KUP11D35	110 VDC	DPDT	10	10.05	9.55	9.05
KUP14A11	120 VAC	3PDT	5	8.80	8.36	7.92
KUP14A15	6, 12, 24, 120 VAC	3PDT	10	8.65	8.22	7.79
KUP14A15	240 VAC	3PDT	10	9.75	9.26	8.78
KUP14D15	6, 12, 24 VDC	3PDT	10	8.00	7.60	7.20
KUP14D15	48 VDC	3PDT	10	8.50	8.08	7.65
KUP14D15	110 VDC	3PDT	10	9.85	9.36	8.87
KUP14A25	120 VAC	3PDT	10	9.95	9.45	8.96
KUP14A35	120 VAC	3PDT	10	10.05	9.55	9.05
KUP14A45	120 VAC	3PDT	10	11.45	10.88	10.31
KUP5A55	120 VAC	SPDT	10	6.90	6.56	6.21
KUP5D55	24 VDC	SPDT	10	6.65	6.32	5.99
KUP11A55	24, 120 VAC	DPDT	10	8.05	7.65	7.25
KUP11D55	6, 12, 24 VDC	DPDT	10	7.10	6.75	6.39
KUP11D55	110 VDC	DPDT	10	8.95	8.50	8.06
KUP14A55	6, 12, 24, 120 VAC	3PDT	10	8.95	8.50	8.06
KUP14A55	240 VAC	3PDT	10	10.05	9.55	9.05
KUP14D55	6, 12, 24 VDC	3PDT	10	8.30	7.89	7.47
KUP14D55	110 VDC	3PDT	10	10.15	9.64	9.14
KUP17A19	6, 12, 24, 120 VAC	4PDT	10	13.15	12.49	11.84
KUP17A19	240 VAC	4PDT	10	14.25	13.54	12.83
KUP17D19	6, 12, 24 VDC	4PDT	10	11.40	10.83	10.26
KUP17D19	110 VDC	4PDT	10	13.25	12.59	11.93
KUP17A55	6, 12, 24, 120 VAC	4PDT	10*	13.40	12.73	12.06
KUP17A55	240 VAC	4PDT	10*	14.50	13.78	13.05
KUP17D55	6, 12, 24 VDC	4PDT	10*	11.65	11.07	10.49
KUP17D55	110 VDC	4PDT	10*	13.50	12.83	12.15

*Specify coil voltage when ordering. *To 10 amps per pole, not to exceed 30 amps total for four poles.



KNP

KNP Series: Small relay designed for economical chassis space. Recognized under UL component program and CSA listing for ratings of 1/10 hp at 120 VAC, 3 amps at 32 VDC, resistive, or 3 amps at 240 VAC. Fine silver cross bar contacts. Terminals are .110" quick-connect/solder. **Mounting:** Suffix **11**, 6-32 tapped hole with locating tab; suffix **21**, 3-48 stud. Clear, polycarbonate cover. **Size:** 1.00" x .98" x 1.45". **Weight:** 1.4 ozs.

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of★: 1-24	25-50	51-99
KNP5A21	12, 24, 120 VAC	SPDT	3	$10.70	$10.17	$ 9.63
KNP5D21	6, 12, 24 VDC	SPDT	3	9.10	8.65	8.19
KNP5D21	110 VDC	SPDT	3	10.70	10.17	9.63
KNP11A11	120 VAC	DPDT	3	12.95	12.30	11.66
KNP11A21	12, 24, 120 VAC	DPDT	3	12.70	12.07	11.43
KNP11D11	12, 24 VDC	DPDT	3	11.00	10.45	9.90
KNP11D21	6, 12, 24 VDC	DPDT	3	10.80	10.26	9.72
KNP11D21	48 VDC	DPDT	3	11.00	10.45	9.90
KNP14A21	12, 24, 120 VAC	3PDT	3	14.75	14.01	13.28
KNP14D21	12, 24 VDC	3PDT	3	12.90	12.26	11.61

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GENERAL PURPOSE RELAYS



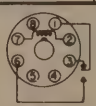
KA



KAP

KA and KAP Series: Small, efficient relays for light power loads. The series has CSA listing and carries UL component recognition. **Contacts:** Suffix **Y**, 5 amps at 120 VAC or 3 amps at 240 VAC; suffix **G**, silver cadmium rated at 10 amps at 120 VAC or 6 amps at 240 VAC. **Mounting:** KA, 6-32 stud and locating tab on .438″ ctrs.; KAP11, 8-pin plug; KAP14, 11-pin plug. **Size:** KA, 1.844″ x 1.468″ x 1.687″; KAP, clear polycarbonate cover, 1.531″ x 1.437″ x 2.281″. **Weight:** 3 ozs.

P & B Number*	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of★ 1-24	25-50	51-99
KA5AY	6, 12, 24, 120 VAC	SPDT	5	$ 6.90	$ 6.56	$ 6.21
KA5AY	240 VAC	SPDT	5	7.75	7.36	6.98
KA5AG	6, 12, 24, 120 VAC	SPDT	10	7.40	7.03	6.66
KA5AG	240 VAC	SPDT	10	8.05	7.65	7.25
KA5DY	6, 12, 24 VDC	SPDT	5	6.85	6.51	6.17
KA5DY	110 VDC	SPDT	5	7.90	7.51	7.11
KA5DG	6, 12, 24 VDC	SPDT	10	6.95	6.60	6.26
KA5DG	110 VDC	SPDT	10	7.95	7.55	7.16
KA11AY	6, 12, 24, 120 VAC	DPDT	5	8.30	7.89	7.47
KA11AY	240 VAC	DPDT	5	9.00	8.55	8.10
KA11AG	6, 12, 24, 120 VAC	DPDT	10	8.70	8.27	7.83
KA11AG	240 VDC	DPDT	10	9.30	8.84	8.37
KA11DY	6, 12, 24 VDC	DPDT	5	8.10	7.70	7.29
KA11DY	48 VDC	DPDT	5	8.80	8.36	7.92
KA11DY	110 VDC	DPDT	5	9.00	8.55	8.10
KA11DG	6, 12, 24 VDC	DPDT	10	8.55	8.12	7.70
KA11DG	110 VDC	DPDT	10	9.35	8.88	8.42
KA14AY	6, 12, 24, 120 VAC	3PDT	5	10.15	9.64	9.14
KA14AY	240 VAC	3PDT	5	10.75	10.21	9.68
KA14AG	6, 12, 24, 120 VAC	3PDT	10	11.10	10.55	9.99
KA14AG	240 VAC	3PDT	10	11.75	11.16	10.58
KA14DY	6, 12, 24 VDC	3PDT	5	10.25	9.74	9.23
KA14DY	110 VDC	3PDT	5	10.90	10.36	9.81
KA14DG	6, 12, 24 VDC	3PDT	10	11.15	10.59	10.04
KA14DG	110 VDC	3PDT	10	11.90	11.31	10.71
KAP5AG	24, 120 VAC	SPDT	10	11.70	11.12	10.53
KAP5DG	24 VDC	SPDT	10	11.35	10.78	10.22
KAP5DG	110 VDC	SPDT	10	12.80	12.16	11.52
KAP11AY	24, 120 VAC	DPDT	5	12.80	12.16	11.52
KAP11AY	240 VAC	DPDT	5	13.45	12.78	12.11
KAP11AG	6, 24, 120 VAC	DPDT	10	13.05	12.40	11.75
KAP11DG	24 VDC	DPDT	10	12.90	12.26	11.61
KAP11DG	110 VDC	DPDT	10	14.10	13.40	12.69
KAP11DY	12, 24 VDC	DPDT	5	12.70	12.07	11.43
KAP11DY	110 VDC	DPDT	5	13.95	13.25	12.56
KAP14AY	24, 120 VAC	3PDT	5	15.75	14.96	14.18
KAP14AY	240 VAC	3PDT	5	16.35	15.53	14.72
KAP14AG	24, 120 VAC	3PDT	10	15.95	15.15	14.36
KAP14DG	24 VDC	3PDT	10	15.90	15.11	14.31
KAP14DG	110 VDC	3PDT	10	17.10	16.25	15.39
KAP14DY	12, 24 VDC	3PDT	5	15.60	14.82	14.04
KAP14DY	110 VDC	3PDT	5	16.65	15.82	14.99



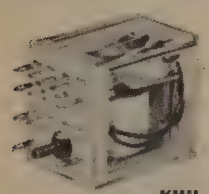
KAP5



KAP11



KAP14



KHU

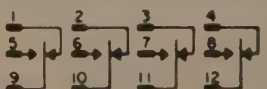


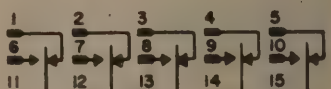
KHS

KHS and KHU Series: KHU style is recognized under component program of UL and CSA, and has clear polycarbonate cover; KHS has hermetically sealed metal cover. Designed for data processing, computers and process control. **Contacts Available:** Suffix **1**, silver rated 3 amps at 30 VDC or 120 VAC; suffix **2**, silver cadmium oxide rated 3 amps; suffix **3**, gold alloy rated low level to 1 amp; suffix **6**, gold overlay on silver, bifurcated, rated 1 amp at 30 VDC, resistive, or 120 VAC. Suffix **N** denotes neon lamp in parallel with coil for visual indication. Solder terminals. Mount with 3-48 stud or socket. **Weight:** KHU17, 1.12 ozs.; KHU20, 1.3 ozs.; KHS, 1.63 ozs. **Size:** KHU17, 1.109″ x .859″ x 1.281″; KHU20, 1.160″ x 1.040″ x 1.281″; KHS, 1.156″ x .91″ x 1.281″.

P & B Number*	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of★ 1-24	25-50	51-99
KHU17A11	6, 12, 24 VAC	4PDT	3	$11.15	$10.59	$10.04
KHU17A11	120 VAC	4PDT	3	11.15	10.59	10.04
KHU17A11N	120 VAC	4PDT	3	14.00	13.30	12.60
KHU17D11	5, 6, 12, 24 VDC	4PDT	3	9.30	8.84	8.37
KHU17D11	48 VDC	4PDT	3	9.65	9.17	8.69
KHU17D11	90, 110 VDC	4PDT	3	10.90	10.36	9.81
KHU17D11N	120 VDC	4PDT	3	14.50	13.78	13.05
KHU17A12	120 VAC	4PDT	3	11.15	10.59	10.04
KHU17D12	12, 24 VDC	4PDT	3	9.30	8.84	8.37
KHU17D12	48 VDC	4PDT	3	9.65	9.17	8.69
KHU17D12	110 VDC	4PDT	3	10.90	10.36	9.81
KHU17A13	120 VAC	4PDT	1	55.95	53.15	50.36
KHU17A18	120 VAC	4PDT	3	12.25	11.64	11.03
KHU17D13	24 VDC	4PDT	1	54.10	51.40	48.69
KHU17D13	48 VDC	4PDT	1	54.45	51.73	49.01
KHU17D16	12, 24 VDC	4PDT	1	12.60	11.97	11.34
KHS17A11	6, 12, 24 VAC	4PDT	3	18.80	17.86	16.92
KHS17A11	120 VAC	4PDT	3	18.80	17.86	16.92
KHS17A12	120 VAC	4PDT	3	18.80	17.86	16.92
KHS17A13	120 VAC	4PDT	3	49.00	46.55	44.10
KHS17D11	6, 12, 24 VDC	4PDT	3	17.75	16.86	15.98
KHS17D11	110 VDC	4PDT	3	19.35	18.38	17.42
KHS17D12	24 VDC	4PDT	3	17.75	16.86	15.98
KHS17D12	110 VDC	4PDT	3	19.35	18.38	17.42
KHS17D13	24 VDC	4PDT	1	47.95	45.55	43.16
KHU20A11	24 VAC	5PDT	2	13.25	12.59	11.93
KHU20A11	120 VAC	5PDT	2	13.25	12.59	11.93
KHU20D11	12, 24 VDC	5PDT	2	11.95	11.35	10.76
KHU20D11	48 VDC	5PDT	2	12.30	11.69	11.07
KHU20D11	110 VDC	5PDT	2	13.55	12.87	12.20
KHU20A12	120 VAC	5PDT	2	13.25	12.59	11.93
KHU20D12	24 VDC	5PDT	2	11.95	11.35	10.76

*Specify coil voltage when ordering.





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GENERAL PURPOSE RELAYS


KR3-H


KRP


KR11

P & B Number▪	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of★: 1-24	25-50	51-99
KR3AH	12, 24, 120 VAC	SPST*	20	$10.60	$10.07	$ 9.54
KR3DH	12, 24 VDC	SPST*	20	10.40	9.88	9.36
KR3DH	110 VDC	SPST*	20	11.35	10.78	10.22
KR11AE•	120 VAC	DPDT	5	29.90	28.41	26.91
KR11AGE•	120 VAC	DPDT	10	30.85	29.31	27.77
KR11DE•	24 VDC	DPDT	5	29.35	27.88	26.42
KR11DGE•	24 VDC	DPDT	10	30.25	28.74	27.23
KR14AGE•	120 VAC	3PDT	10	40.30	38.29	36.27
KRP3AH▲	12, 24, 120 VAC	SPST*	20	14.80	14.06	13.32
KRP3DH▲	12, 24 VDC	SPST*	20	14.55	13.82	13.10
KRP3DH▲	110 VDC	SPST*	20	15.60	14.82	14.04
KRP5A▲	6, 12, 24, 120 VAC	SPDT	5	11.30	10.74	10.17
KRP5AG▲	6, 12, 24, 120 VAC	SPDT	10	11.75	11.16	10.58
KRP5D▲	6, 12, 24 VDC	SPDT	5	11.25	10.69	10.13
KRP5D▲	110 VDC	SPDT	5	12.60	11.97	11.34
KRP5DG▲	6, 12, 24 VDC	SPDT	10	11.70	11.12	10.53
KRP5DG▲	110 VDC	SPDT	10	12.95	12.30	11.66
KRP11A▲	6, 12, 24, 120 VAC	DPDT	5	12.75	12.11	11.48
KRP11A▲	240 VAC	DPDT	5	13.45	12.78	12.11
KRP11AG▲	6, 12, 24, 120 VAC	DPDT	10	13.10	12.45	11.79
KRP11AG▲	240 VAC	DPDT	10	13.85	13.16	12.47
KRP11D▲	6, 12, 24 VDC	DPDT	5	12.60	11.97	11.34
KRP11D▲	48 VDC	DPDT	5	13.25	12.59	11.93
KRP11D▲	110 VDC	DPDT	5	13.85	13.16	12.47
KRP11DG▲	6, 12, 24 VDC	DPDT	10	13.05	12.40	11.75
KRP11DG▲	48 VDC	DPDT	10	13.80	13.11	12.42
KRP11DG▲	110 VDC	DPDT	10	14.25	13.54	12.83
KRP14A▲	6, 12, 24, 120 VAC	3PDT	5	15.70	14.92	14.13
KRP14A▲	240 VAC	3PDT	5	16.30	15.49	14.67
KRP14AG▲	6, 12, 24, 120 VAC	3PDT	10	16.10	15.30	14.49
KRP14AG▲	240 VAC	3PDT	10	17.05	16.20	15.35
KRP14D▲	6, 12, 24 VDC	3PDT	5	15.60	14.82	14.04
KRP14D▲	48 VDC	3PDT	5	16.10	15.30	14.49
KRP14D▲	110 VDC	3PDT	5	16.75	15.91	15.08
KRP14DG▲	6, 12, 24 VDC	3PDT	10	16.00	15.20	14.40
KRP14DG▲	48 VDC	3PDT	10	16.85	16.01	15.17
KRP14DG▲	110 VDC	3PDT	10	17.30	16.44	15.57
KRP11AN▲	6, 12, 24, 120 VAC	DPDT	10	14.90	14.16	13.41
KRP11AN▲	240 VAC	DPDT	10	15.75	14.96	14.18
KRP11DN▲	6, 12, 24 VDC	DPDT	10	14.80	14.06	13.32
KRP11DN▲	110 VDC	DPDT	10	16.00	15.20	14.40
KRP14AN▲	6, 12, 24, 120 VAC	3PDT	10	18.15	17.24	16.34
KRP14AN▲	240 VAC	3PDT	10	19.00	18.05	17.10
KRP14DN▲	24 VDC	3PDT	10	17.90	17.01	16.11
KRPA5AY▲	6, 12, 24, 120 VAC	SPDT	5	9.55	9.07	8.60
KRPA5AG▲	6, 12, 24, 120 VAC	SPDT	10	9.90	9.41	8.91
KRPA5DY▲	6, 12, 24 VDC	SPDT	5	9.50	9.03	8.55
KRPA5DY▲	110 VDC	SPDT	5	10.65	10.12	9.59
KRPA5DG▲	6, 12, 24 VDC	SPDT	10	9.90	9.41	8.91
KRPA5DG▲	110 VDC	SPDT	10	10.95	10.40	9.86
KRPA11AY▲	6, 12, 24, 120 VAC	DPDT	5	10.80	10.26	9.72
KRPA11AY▲	240 VAC	DPDT	5	11.40	10.83	10.26
KRPA11AG▲	6, 12, 24, 120 VAC	DPDT	10	11.05	10.50	9.95
KRPA11AG▲	240 VAC	DPDT	10	11.70	11.12	10.53
KRPA11DY▲	6, 12, 24 VDC	DPDT	5	10.65	10.12	9.59
KRPA11DY▲	48 VDC	DPDT	5	11.20	10.64	10.08
KRPA11DY▲	110 VDC	DPDT	5	11.70	11.12	10.53
KRPA11DG▲	6, 12, 24 VDC	DPDT	10	11.05	10.50	9.95
KRPA11DG▲	48 VDC	DPDT	10	11.65	11.07	10.49
KRPA11DG▲	110 VDC	DPDT	10	12.05	11.45	10.85
KRPA14AY▲	6, 12, 24, 120 VAC	3PDT	5	13.30	12.64	11.97
KRPA14AY▲	240 VAC	3PDT	5	13.80	13.11	12.42
KRPA14AG▲	6, 12, 24, 120 VAC	3PDT	10	13.60	12.92	12.24
KRPA14AG▲	240 VAC	3PDT	10	14.45	13.73	13.01
KRPA14DY▲	6, 12, 24 VDC	3PDT	5	13.20	12.54	11.88
KRPA14DY▲	48 VDC	3PDT	5	13.65	12.97	12.29
KRPA14DY▲	110 VDC	3PDT	5	14.20	13.49	12.78
KRPA14DG▲	6, 12, 24 VDC	3PDT	10	13.55	12.87	12.20
KRPA14DG▲	48 VDC	3PDT	10	14.25	13.54	12.83
KRPA14DG▲	110 VDC	3PDT	10	14.65	13.92	13.19
KRPA11AN▲	6, 12, 24, 120 VAC	DPDT	10	12.60	11.97	11.34
KRPA11AN▲	240 VAC	DPDT	10	13.30	12.64	11.97
KRPA11DN▲	6, 12, 24 VDC	DPDT	10	12.50	11.88	11.25
KRPA11DN▲	110 VDC	DPDT	10	13.55	12.87	12.20
KRPA14AN▲	6, 12, 24, 120 VAC	3PDT	10	15.35	14.58	13.82
KRPA14AN▲	240 VAC	3PDT	10	16.10	15.30	14.49
KRPA14DN▲	24 VDC	3PDT	10	15.15	14.39	13.64

*Normally open—double make. •Sealed relay. ▲Enclosed relay. ▪Specify coil voltage when ordering.

KR3_H and KRP3_H Series: Small, heavy-duty relay. Silver cadmium oxide contacts rated 20 amps at 120 VAC, resistive, or 28 VDC; 1 hp at 120/240 VAC, 60 Hz. **Terminals:** KR3_H, .250″ quick-connect/solder for the contacts, solder only for the coil; KRP3_H, octal plug. **Mounting:** KR3_H, 6-32 stud and locating tab on .437″ ctrs. **Size:** KR3_H, 1.67″ x 1.6″ x 1.52″; KRP3_H, 1.406″ x 1.531″ x 2.281″. **Weight:** KR3_H, 2 ozs; KRP3_H, 3 ozs.

KR11_E and KR14_E Series: Hermetically sealed in metal can with octal plug. **Contacts:** Gold-flashed silver rated 5 amps at 120 VAC or 28 VDC, resistive; except suffix **G** denotes silver cadmium oxide rated 10 amps at 120 VAC or 28 VDC, resistive. **Size:** 1.406″ x 1.406″ x 2.00″.

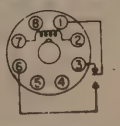
KRP Series: Clear, polycarbonate cover. Octal plug on KRP5 and KRP11; 11-pin plug on KRP14. **Contacts:** Gold-flashed silver rated 5 amps except suffix **G** denotes silver cadmium oxide rated 10 amps. **Size:** 1.406″ x 1.406″ x 2.00″. **Weight:** 3 oz.

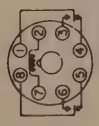
KRP_N Series: A general purpose relay incorporating a lamp in parallel with the coil. **Contacts:** Silver cadmium oxide rated 10 amps. Clear polycarbonate cover and octal plug. **Size:** 1.406″ x 1.406″ x 2.00″. **Weight:** 3 ozs.

KRPA Series: A low cost version of the KRP relay. Clear polycarbonate cover with octal plug. **Contacts:** Silver rated 5 amps ;silver cadmium oxide rated 10 amps. **Size:** 1.406″ x 1.406″ x 2.000″. **Weight:** 3 ozs.

KRPA–N Series: Same, except incorporates lamp in parallel with relay coil.


KRP3AH


KRP5

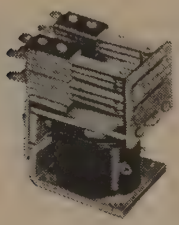

KRP11


KRP14

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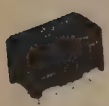
GENERAL PURPOSE RELAYS



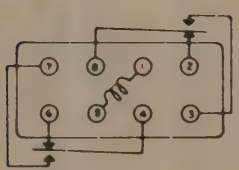
GA

GA Series: Multiple contact, voltage operated relay designed for industrial control applications. Self-cleaning, silver contacts rated 5 amps at 28 VDC or 120 VAC. Tinned, pierced, solder type terminals. Mounts on 8-32 tapped core with locating boss. **Size:** 1.063″ x 1.719″ x 1.781″. **Weight:** 3½ ozs.

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of ★: 1-24	25-50	51-99
GA11A	6, 12, 24, 120 VAC	DPDT	5	$13.75	$13.06	$12.38
GA11D	6, 12, 24 VDC	DPDT	5	13.70	13.02	12.33
GA11D	110 VDC	DPDT	5	14.30	13.59	12.87
GA14A	24, 120 VAC	3PDT	5	17.70	16.82	15.93
GA17A	6, 12, 24, 120 VAC	4PDT	5	21.15	20.09	19.04
GA17A	240 VAC	4PDT	5	21.35	20.28	19.22
GA17D	6, 12, 24 VDC	4PDT	5	20.25	19.24	18.23
GA17D	110 VDC	4PDT	5	20.90	19.86	18.81



HP, HPS



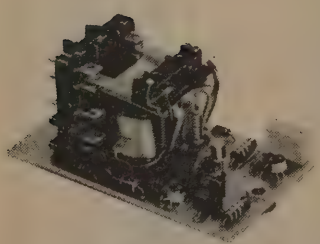
HP Series: Designed for TV cameras, computers, copiers, etc. Terminals on a .2″ grid for plug-in or PC board. DPDT contacts rated 2 amps at 28 VDC, resistive; 0.5 amp at 120 VAC. Has nylon, non-hermetic cover. **Size:** .48″ x .88″ x .49″. **Weight:** 0.3 oz.

HPS Series: Hermetically sealed version of HP. For reliable performance in logic circuits or where prolonged submersion in cleaning solvents is required. Sealed metal cover. **Size:** .41″ x .81″ x .41″. **Weight:** 0.25 oz.

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of ★: 1-24	25-50	51-99
HP11D	5, 6, 12, 24 VDC	DPDT	2	$16.65	$15.82	$14.99
HP11D	48 VDC	DPDT	2	17.30	16.44	15.57
HPS11D	12, 24 VDC	DPDT	2	19.45	18.48	17.51

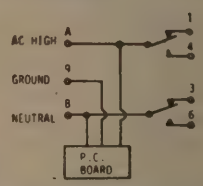
*Specify coil voltage when ordering.

GROUND LINE INTEGRITY MONITOR



CZS

The ground line integrity monitor is intended to detect inordinate leakage currents and excessive resistance in ground lines from motors, etc. Resistances above approx. 1 megohm and/or currents developing voltages of 15 V rms, max., will trip the output relay and remove power from the load. The fault condition must be removed before power can be reapplied. **Size:** 3.30″ lg. (3.40″ for 240 VAC models) x 1.80″ w. x 1.50″ h. max. **Contacts:** DPDT. **Oper. Temp.:** 0° C to +55° C. **Terminals:** .187″ quick-connect and solder lugs.



P & B Number	Input Volts	Output Amps/Volts	Net Each, Lots of: 1-9	10-24	25-49	50-Up
CZS-01-70000*	120	10/120	$43.45	$41.28	$39.11	$34.76
CZS-01-80000	240*	10/240	54.95	52.20	49.46	43.96
CZS-01-70001*	120	15/120	44.75	42.51	40.28	35.80
CZS-01-80001	240*	15/240	58.70	55.77	52.83	46.96

*Single phase only. *UL Recognized.

AC CURRENT SENSOR



SDAS

The SDAS-01 is a field-adjustable AC current sensor. To sense current, the unit must be inductively coupled to a power line by passing the insulated power line conductor through the loop on the end of the enclosure. The unit's solid-state sensing circuit controls an internal DPDT relay. Both undercurrent and overcurrent models are available. The undercurrent unit's relay picks up when sense current drops below the potentiometer setting for at least 350 msec. It remains energized until sense current exceeds the potentiometer setting or control voltage is removed. A 350 msec delay after control voltage is applied allows line components time to turn on. The overcurrent unit's relay energizes when sense current exceeds the potentiometer setting for longer than the built-in delay allows (200 msec, min.). Actual time delay depends on the potentiometer setting and the magnitude of overcurrent. The relay remains energized until control voltage is removed, even if the overcurrent condition ceases to exist. The SDAS-01 is enclosed in a polycarbonate cover measuring 1.406″ x 1.531″ x 2.781″ high; the sensing loop extends .515″ above the cover. Terminals are .187″ quick-connect type and fit into standard KU sockets. **Contacts:** DPDT rated 2 amps at 28 VDC, 1 amp at 120 VAC, resistive. **Control Voltage:** 24 VAC, 50/60 Hz, or DC, 1.7 watts or 1.7 VA. **Sense-Current Range:** 1.5 to 15 amps AC. **Operating Temperature Range:** −40° C to +85° C.

P & B Number	Description	Net Each★
SDAS-01-7Y2S1024	Undercurrent	$51.90
SDAS-01-8Y2S1024	Overcurrent	46.45

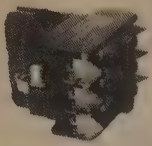
★LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY

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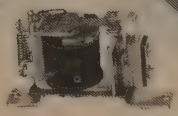
AMF | POTTER & BRUMFIELD Relays

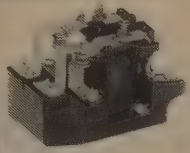
POWER RELAYS


AB

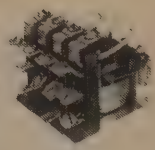

P25


517R


MR


PRD 11


ABC


PM

AB Series: UL and CSA recognized. For applications requiring long life and quiet operation. Connections are .250″ quick-connect; screw adapters are available. Contacts are silver. **Contact Rating:** Suffix **H**, 15 amps at 277 VAC; suffix **Y**, 10 amps at 120 VAC or 5 amps at 240 VAC, resistive. **Mounting:** Two 8-32 tapped holes on 1.25″ ctrs. **Size:** 1.375″ x 1.906″ x 3.0″. **Weight:** 5 ozs.

ABC Series: AB type in non-hermetic metal cover. **Mounting:** 8-32 stud and locating tab on .562″ ctrs. **Size:** 2.094″ x 1.469″ x 2.781″. **Weight:** 7 ozs.

MB Series: Miniature DC contactor designed for very high current applications. Silver contacts rated 60 amps at 28 VDC, resistive. **Mounting:** Four 3-48 tapped holes on .375″ x .375″ ctrs. **Weight:** 2 ozs. **Size:** 1.44″ x .88″ x 1.66″.

P25 Series: Designed for 3-phase motor loads of up to 25 amps at 600 VAC, resistive loads of up to 30 amps at 600 VAC. Contacts are field-replaceable silver-cadmium oxide in a 3PDT-NO-DM arrangement. Main contact terminals are 8-32 screws for straight-through wiring. Other terminals are available. Coil terminals are combination screw and ¼″ quick-connect. P25C models have an auxiliary SPDT snap switch with silver contacts rated 10 amps at 125-250 VAC and ¼″ quick-connect terminals. Models with "1" as the eighth character in the part No. mount using two #10 screws on 2.125″ centers. Others have universal mounting plate.

P30/P40 Series: Similar to Series P25, except all models have mounting plate and P30 is rated for 30 amp motor loads and P40 is rated for 40 amp motor loads.

MR Series: A medium duty power relay that can handle small motors, transmitters, and general purpose applications. Silver contacts. **Mounting:** Two .156″ dia. holes on 2.25″ ctrs. for MR3 and MR11; on 2.625″ ctrs for MR5 and MR14. **Size:** 2.969″ x 2.188″ x 2.0″. **Weight:** 4 ozs.

PM Series: A compact power relay for polyphase and heavy duty applications. Type PM has screw terminals; type PMT has .250″ quick-connect terminals. Contacts are silver cadmium oxide rated 25 amps at 240 VAC, resistive; 1 hp per movable arm at 120 or 240 VAC. UL and CSA. **Mounting:** one front keyhole and two rear slots for 8-32 screws. **Size:** 3.394″ x 2.657″ x 2.719″. **Weight:** 14 ozs.

PRD Series: A direct replacement for the popular PR series. Has reinforced screw terminals and plastic enclosure around coil. UL and CSA listed. PRD relays with 12 or 24 VDC coils are compatible with IC drivers used to terminate logic boards. PRDA11AYA relay has an auxiliary miniature snap-action switch with SPDT contacts rated 5 amps at 120 VAC. **Mounting:** Two .188″ dia. holes on 1.875″ ctrs. **Size:** 2.531″ x 3.375″ x 2.50″. **Weight:** 11 ozs.

UL listed.

S87R Series: UL recognized for use in vending machines, washing machines, machine tool control systems, etc. Connections are .250″ quick-connect. **Contact Rating:** 20 amps at 277 VAC; 60 LRA, 12 FLA, 1 HP at 125 VAC; 48 LRA, 8 FLA, 2 HP at 250 VAC. **Pilot Duty:** 360 VA, 125/250 VAC. **Mounting:** .166″ diam. hole and .160″ diam. boss. **Size:** 1.62″ x 2.60″ x 2.07″.

P & B Number#	Coil Input	Contacts: Arrangement	Contacts: Amps, Max.	Net Each, Lots of ★: 1-24	25-50	51-99
AB11AH	6, 24, 120 VAC	DPDT	15	$16.65	$15.82	$14.99
AB11AH	240 VAC	DPDT	15	17.60	16.72	15.84
AB11AY	24, 120 VAC	DPDT	10	16.85	16.01	15.17
AB11AY	240 VAC	DPDT	10	17.80	16.91	16.02
AB11DH	12, 24 VDC	DPDT	15	17.55	16.67	15.80
AB11DH	110 VDC	DPDT	15	18.65	17.72	16.79
AB11DY	12, 24 VDC	DPDT	15	17.90	17.01	16.11
AB11DY	110 VDC	DPDT	15	18.65	17.72	16.79
ABC11AH▲	6, 24, 120 VAC	DPDT	15	17.30	16.44	15.57
ABC11AH▲	240 VAC	DPDT	15	18.15	17.24	16.34
ABC11AY▲	24, 120 VAC	DPDT	10	17.55	16.67	15.80
ABC11AY▲	240 VAC	DPDT	10	18.45	17.53	16.61
ABC11DH▲	6, 12, 24 VDC	DPDT	15	18.15	17.24	16.34
ABC11DH▲	110 VDC	DPDT	15	19.15	18.19	17.24
ABC11DY▲	12, 24 VDC	DPDT	10	18.45	17.53	16.61
MB3D	6, 12, 24 VDC	SPST*	60	20.20	19.19	18.18
MB3D	110 VDC	SPST*	60	20.75	19.71	18.68
MR3A	24, 120 VAC	SPST*	10	13.10	12.45	11.79
MR3D	12, 24 VDC	SPST*	10	13.55	12.87	12.20
MR5A	6, 12, 24, 120 VAC	SPDT	8	11.20	10.64	10.08
MR5A	240 VAC	SPDT	8	12.35	11.73	11.12
MR5D	6, 12, 24 VDC	SPDT	8	11.30	10.74	10.17
MR5D	110 VDC	SPDT	8	12.45	11.83	11.21
MR11A	6, 12, 24, 120 VAC	DPDT	8	14.95	14.20	13.46
MR11A	240 VAC	DPDT	8	15.90	15.11	14.31
MR11D	6, 12, 24 VDC	DPDT	8	15.05	14.30	13.55
MR11D	110 VDC	DPDT	8	16.10	15.30	14.49
MR14A	6, 12, 24, 120 VAC	3PDT	8	20.20	19.19	18.18
MR14A	240 VAC	3PDT	8	20.95	19.90	18.86
MR14D	12, 24 VDC	3PDT	8	20.25	19.24	18.23
MR14D	110 VDC	3PDT	8	21.10	20.05	18.99
P25C42A12D1	24, 120, 240 VAC	3PST	25	22.25•	21.14	20.03
P25C42A22D1	24, 120, 240 VAC	3PST	25	23.05•	21.90	20.75
P25P42A12P1	24, 120, 240 VAC	3PST	25	20.50	19.48	18.45
P25P42A22P1	24, 120, 240 VAC	3PST	25	21.30	20.24	19.17
P30P42A12P1	24, 120, 240 VAC	3PST#	30	25.15	23.89	22.64
P30C42A12D1	24, 120, 240 VAC	3PST#•	30	27.70	26.32	24.93
P30P47A12P1	24, 120, 240 VAC	4PST#	30	28.80	27.36	25.92
P30C47A12D1	24, 120, 240 VAC	4PST#•	30	31.35	29.78	28.22
P40P42A12P1	24, 120 240 VAC	3PST#	40	26.80	25.46	24.12
P40C42A12D1	24, 120, 240 VAC	3PST#•	40	29.10	27.65	26.19
P40P47A12P1	24, 120, 240 VAC	4PST#	40	30.65	29.12	27.59
P40C47A12D1	24, 120, 240 VAC	4PST#•	40	33.20	31.54	29.88
PM17AY	6, 12, 24, 120 VAC	4PDT	25	31.90	30.31	28.71
PM17AY	240 VAC	4PDT	25	32.05	30.45	28.85
PM17AY	480 VAC	4PDT	25	34.45	32.73	31.01
PM17DY	6, 12, 24 VDC	4PDT	25	29.30	27.84	26.37
PM17DY	110 VDC	4PDT	25	31.10	29.55	27.99
PMT17AY	24, 120 VAC	4PDT	25	30.40	28.88	27.36
PRD1AY0	24, 120 VAC	SPST#	25	8.40	7.98	7.56
PRD1AY0	6, 12, 24, 120 VAC	SPST*	25	8.70	8.27	7.83
PRD3AY0	208, 240 VAC	SPST*	25	8.90	8.46	8.01
PRD3DY0	5, 6, 12, 24 VDC	SPST*	25	8.40	7.98	7.56
PRD3DY0	110 VDC	SPST*	25	9.75	9.26	8.78
PRD5AY0	6, 12, 24, 120 VAC	SPDT	25	9.75	9.26	8.78
PRD5AY0	208, 240 VAC	SPDT	25	9.95	9.45	8.96
PRD5DY0	5, 6, 12, 24 VDC	SPDT	25	9.45	8.98	8.51
PRD5DY0	110 VDC	SPDT	25	10.80	10.26	9.72
PRD7AG0	120 VAC	DPST#	30	10.70	10.17	9.63
PRD7AY0	6, 12, 24, 120 VAC	DPST#	25	10.95	10.40	9.86
PRD7AY0	208, 240 VAC	DPST#	25	11.15	10.59	10.04
PRD7DG0	24 VDC	DPST	30	10.15	9.64	9.14
PRD7DY0	5, 6, 12, 24 VDC	DPST#	25	10.65	10.12	9.59
PRD7DY0	110 VDC	DPST#	25	12.00	11.40	10.80
PRD11AG0	120 VAC	DPDT	30	13.25	12.59	11.93
PRD11AY0	6, 12, 24, 120 VAC	DPDT	25	13.60	12.92	12.24
PRD11AY0	208, 240 VAC	DPDT	25	13.80	13.11	12.42
PRD11AY0	480 VAC	DPDT	25	17.80	16.91	16.02
PRDA11AYA	12, 24, 120 VAC	DPDT•	25	20.10	19.10	18.09
PRDA11AYA	240 VAC	DPDT•	25	20.30	19.29	18.27
PRD11DG0	24 VDC	DPDT	30	13.25	12.59	11.93
PRD11DY0	5, 6, 12, 24 VDC	DPDT	25	13.30	12.64	11.97
PRD11DY0	110 VDC	DPDT	25	14.65	13.92	13.19
S87R5A2B1D1	24, 120 VAC	SPDT	20	5.75	5.46	5.18
S87R5A2B1D1	240 VAC	SPDT	20	6.35	6.03	5.72
S87R11A2B1D1	24, 120 VAC	DPDT	20	7.80	7.41	7.02
S87R11A2B1D1	240 VAC	DPDT	20	8.40	7.98	7.56
S87R5D2B1D1	12, 24 VDC	SPDT	20	5.35	5.08	4.82
S87R11D2B1D1	24 VDC	DPDT	20	7.35	6.98	6.62

*Normally open—double make. #Normally open. ▲Enclosed relay. #Specify coil voltage when ordering. •Has auxiliary SPDT switch.

★LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY

SEE ANOTHER P & B PAGE FOR ACCESSORIES

SPECIAL PURPOSE RELAYS

AP Series: A ratchet impulse relay for applications requiring on-off or reversing action on alternate operations. Positive ratchet operation at all speeds on impulses as short as 60 msec. Intermittent operation only. **Contacts:** Silver, rated 5 amps at 120 VAC, resistive. **Mounting:** Three .156″ holes on 3.375″ x .875″ triangular ctrs. **Size:** 3.75″ x 2.25″ x 2.313″. **Weight:** 7 ozs.

BU Series: AC operated buzzer has spring steel armature which buzzes when coil is energized. UL recognized. **Mounting:** 6-32 tapped core. **Size:** 1.032″ x 1.375″ x 1.032″. **Weight:** 1⅞ ozs.

GM Series: An impulse sequencing relay especially suitable for applications requiring single-coil latching. The 2 Form C contact arrangement is switched alternately by cam action during drop-out of the armature. Can also be furnished with additional 2 Form C auxiliary contacts (**L** suffix). Contacts rated 3 amps at 120 VAC. **Mounting:** 8-32 tapped core with locating tab. **Weight:** 4 ozs.; with auxiliary contacts, 4.75 ozs. **Size:** 2.07″ x 1.437″ x 2.031″.

GM1N Series: The basic structure of the GM relay with added printed circuit board with 10 or 12 steps. The board is attached to an extension of the ratchet shaft. The movable contact arm advances one position each time the armature drops out. **Contacts:** Rated .25 amp; SP 10 pos. and SP 12 pos. **Size:** 2.312″ x 1.875″ x 2″.

KB Series: Latching relay ideal for memory work and overload applications. One coil operates relay to set latch and other coil releases it. Operates on momentary impulse to either coil. **Contacts:** Suffix **Y**, silver rated 5 amps at 120 VAC; suffix **G**, silver cadmium oxide rated 10 amps at 120 VAC. AC relays with 5 amp contacts recognized by UL and CSA. **Mounting:** Two .156″ dia. holes on 1.375″ ctrs. **Size:** 1.812″ x 2.13″ x 3.22″. **Weight:** 6 ozs.

KBP Series: A KB relay enclosed in polypropylene cover and furnished with 20-pin plug. Not UL recognized. **Size:** 1.781″ x 2.406″ x 3.56″. **Weight:** 8 ozs.

KM Series: Subminiature relay for applications requiring unusually small relays with solder terminals. **Contacts:** Silver, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** 2-56 tapped core and locater on .187″ ctrs. **Size:** .688″ x 1.125″ x .828″. **Weight:** .58 oz.

KT Series: Antenna switching relay with glass base insulation for minimum RF loss while switching 300-ohm line. **Contacts:** Gold-flashed silver, rated 5 amps at 120 VAC or 500 watts RF. **Mounting:** 6-32 stud and locating tab on .438″ ctrs. **Size:** 1.312″ x 1.625″ x 1.687″. **Weight:** 1.5 ozs.

KUL Series: Small, magnetic latching relay. Designed for continuous duty in applications requiring good memory stability. UL recognized and CSA listed. All DPDT AC models include diodes inside the clear polycarbonate case. **Contacts:** Silver cadmium oxide, rated 10 amps at 28 VDC, resistive, or 120 VAC. **Mounting:** Socket. **Size:** 1.531″ x 1.406″ x 2.156″. **Weight:** 3.4 ozs.

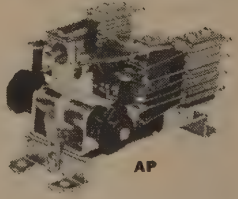
MS Series: Relay operates from back emf of motor starting winding to disconnect the starting capacitor. UL recognized. **Contacts:** MS2, fine silver, rated ¼ hp; MS4, silver cadmium, rated 3 hp. **Mounting:** Two .156″ dia. holes on 1.563″ ctrs. **Size:** 3.063″ x 2.063″ x 2.125″. **Weight:** 5 ozs.

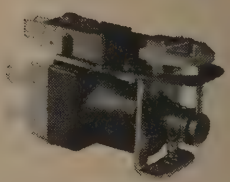
S89R Series: A low cost, bistable, impulse relay for use where the load is on for long periods of time. A 30 msec. pulse is needed to set the relay; a second 30 msec. pulse releases the relay. **Contact Rating:** ½ HP, 125/250 VAC; 5 amps, 125 VAC inductive; ½ amp, 125 VDC; ¼ amp, 250 VDC. **Mounting:** Two 8-32 tapped holes on 1.844″ ctrs. **Termination:** Suffix **D1**, .250″ quick-connect. Suffix **C1**, .187″ quick-connect. **Size:** 1.73″ x 3.05″ x 1.95″–2.37″; depending on contact form.


MS


KM


KT


AP


S-89R

P & B Number*	Coil Input	Contacts: Arrangement	Contacts: Amps, Typ.	Net Each, Lots of ★: 1-24	25-50	51-99
AP11A	6, 12, 24, 120 VAC	DPDT	5	$33.00	$31.35	$29.70
AP11A	240 VAC	DPDT	5	33.15	31.49	29.84
AP11D	6, 12, 24 VDC	DPDT	5	33.20	31.54	29.88
AP11D	110 VDC	DPDT	5	33.65	31.97	30.29
AP17A	24, 120 VAC	4PDT	5	47.60	45.22	42.84
AP17D	12, 24 VDC	4PDT	5	46.40	44.08	41.76
AP17D	110 VDC	4PDT	5	46.85	44.51	42.17
BU	6, 12, 24, 120 VAC	.....	.....	4.20	3.99	3.78
BU	240 VAC	.....	.....	5.45	5.18	4.91
GM11A	24, 120 VAC	DPDT	3	31.45	29.88	28.31
GM11AL11	120 VAC	DPDT•	3	39.80	37.81	35.82
GM11D	12, 24 VDC	DPDT	3	29.55	28.07	26.60
GM11D	110 VDC	DPDT	3	29.90	28.41	26.91
GM1N10A	120 VAC	10SP	.25	30.55	29.02	27.50
GM1N12A	120 VAC	12SP	.25	29.65	28.17	26.69
GM1N10D	24 VDC	10SP	.25	30.45	28.93	27.41
GM1N12D	24 VDC	12SP	.25	29.20	27.74	26.28
KB17AY	6, 12, 24, 120 VAC	4PDT	5	23.75	22.56	21.38
KB17AY	240 VAC	4PDT	5	26.25	24.94	23.63
KB17AG	6, 12, 24, 120 VAC	4PDT	10	25.25	23.99	22.73
KB17AG	240 VAC	4PDT	10	27.00	25.65	24.30
KB17D	6, 12, 24 VDC	4PDT	5	24.40	23.18	21.96
KB17D	110 VDC	4PDT	5	25.25	23.99	22.73
KB17DG	6, 12, 24 VDC	4PDT	10	25.05	23.80	22.55
KB17DG	110 VDC	4PDT	10	26.25	24.94	23.63
KB23AY	24, 120 VAC	6PDT	5	32.60	30.97	29.34
KB23AG	24, 120 VAC	6PDT	10	34.85	33.11	31.37
KB23D	24 VDC	6PDT	5	30.70	29.17	27.63
KB23DG	24 VDC	6PDT	10	32.95	31.30	29.66
KB23DG	110 VDC	6PDT	10	34.05	32.35	30.65
KBP11DG	24 VDC	DPDT	10	31.75	30.16	28.58
KBP11A▲	120 VAC	DPDT	5	31.00	29.45	27.90
KBP11AG▲	120 VAC	DPDT	10	31.25	29.69	28.13
KBP17A▲	120 VAC	4PDT	5	42.25	40.14	38.03
KBP17AG▲	120 VAC	4PDT	10	43.30	41.14	38.97
KBP17D▲	24 VDC	4PDT	5	41.35	39.28	37.22
KBP17DG▲	12, 24 VDC	4PDT	10	43.00	40.85	38.70
KBP20A▲	120 VAC	5PDT	5	48.85	46.41	43.97
KBP20AG▲	120 VAC	5PDT	10	51.15	48.59	46.04
KBP20DG▲	12, 24 VDC	5PDT	10	49.90	47.41	44.91
KM5D	6, 12, 24 VDC	SPDT	2	14.25	13.54	12.83
KM11D	6, 12, 24 VDC	DPDT	2	16.65	15.82	14.99
KM14D	6, 12, 24 VDC	3PDT	2	20.35	19.33	18.32
KT11A	6, 120 VAC	DPDT	5	11.85	11.26	10.67
KT11D	6, 12 VDC	DPDT	5	11.35	10.78	10.22
KUL5A15S	120 VAC	SPDT	10	13.45	12.78	12.11
KUL5D15S	24 VDC	SPDT	10	10.20	9.69	9.18
KUL11A15S	12, 24, 120 VAC	DPDT	10	15.40	14.63	13.86
KUL11D15D	12, 24 VDC	DPDT	10	18.60	17.67	16.74
KUL11D15S	12, 24 VDC	DPDT	10	12.25	11.64	11.03
MS2AY	120 VAC	SPST†	¼ hp	13.05	12.40	11.75
MS2AY	240 VAC	SPST†	¼ hp	13.20	12.54	11.88
MS4AY	120 VAC	SPST§	3 hp	15.10	14.35	13.59
MS4AY	240 VAC	SPST§	3 hp	15.25	14.49	13.73
S89R5ABD1	24, 120 VAC	SPDT	15	8.30	7.89	7.47
S89R5ABD1	240 VAC	SPDT	15	8.50	8.08	7.65
S89R11AAC1	6, 12, 24, 120 VAC	DPDT	15	10.00	9.50	9.00
S89R11AAC1	240 VAC	DPDT	15	10.20	9.69	9.18
S89R11ABD1	24, 120 VAC	DPDT	15	10.00	9.50	9.00
S89R11ABD1	240 VAC	DPDT	15	10.20	9.69	9.18
S89R17AAC1	24, 120 VAC	4PDT	15	14.40	13.68	12.96
S89R11DAC1	6, 12, 24 VDC	DPDT	15	9.55	9.07	8.60
S89R5DBD1	12, 24 VDC	SPDT	15	7.85	7.46	7.07
S89R17DAC1	24 VDC	4PDT	15	13.95	13.25	12.56
S89R11DBD1	12, 24 VDC	DPDT	15	9.65	9.17	8.69

†Normally closed. §Normally closed—double break. ▲Enclosed relay. •Has auxiliary 2 Form C contacts. *Specify coil voltage when ordering.

★LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY

SEE ANOTHER P & B PAGE FOR ACCESSORIES

SENSITIVE RELAYS

KCP Series: Low cost, DC sensitive relay enclosed in clear polycarbonate cover. **Contacts:** Gold-flashed silver, rated 2 amps at 30 VDC or 120 VAC, resistive. **Mounting:** KCP5 and KCP11, 8-pin plug; KCP14, 11-pin plug. **Size:** 1.406″ x 1.406″ x 2.0″. **Weight:** 3 ozs.

LB Series: Each relay coil is wound to a specific resistance and the relay is adjusted to operate on minimum current requirements. **Contacts:** Silver, rated 5 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two .188″ dia. holes on 2.219″ ctrs. **Size:** 2.656″ x 1.25″ x 1.375″. **Weight:** 2 ozs.

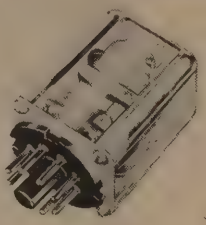
LM Series: Medium cost, high quality relay. Pick-up adjustable by tail spring adjusting screw. **Contacts:** Gold-flashed silver, rated 5 amps at 120 VAC. **Mounting:** Two 6-32 tapped holes on 1.813″ ctrs. **Size:** 2.25″ x 2.188″ x 2.563″. **Weight:** 5 ozs.

ML Series: A small telephone-type relay with excellent sensitivity. Pierced solder terminals. **Contacts:** Gold-flashed silver, rated 3 amps at 120 VAC. **Mounting:** Four 3-48 holes on .375″ ctrs. **Size:** 1.969″ x .75″ x 1.594″. **Weight:** 2.5 ozs.

PW Series: For applications requiring a precision, lightweight, hermetically sealed relay. **Contacts:** Rated 1 amp at 28 VDC or 120 VAC, resistive. **Mounting:** Standard 7-pin miniature tube base. **Size:** .765″ dia. x 1.688″. **Weight:** 1 oz.

RS Series: Low cost, small, sensitive relay for radiosonde, light dimmer, and model applications. **Contacts:** Bar palladium, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two 4-40 tapped holes on diagonal .75″ x .625″ ctrs. **Size:** 1.0″ x 1.172″ x .938″. **Weight:** 1.5 oz.

SS Series: Ultra sensitive precision relay. Dual, series-connected coils with balanced armature on needle-point bearings for all low energy circuits such as instruments and bridge balancing. May also be used as a differential relay by connecting the two coils in separate circuits. **Contacts:** Silver, rated 2 amps at 28 VDC or 120 VAC, resistive. **Mounting:** Two 6-32 tapped holes on .719″ ctrs. **Size:** 1.75″ x 1.375″ x 1.688″. **Weight:** 3.5 ozs.



KCP



LM



ML

P & B Number[■]	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
KCP5-2500[▲]	7.2 mA	SPDT	2	$11.70	$11.12	$10.53
KCP5-5000[▲]	5.0 mA	SPDT	2	11.80	11.21	10.62
KCP5-10000[▲]	3.6 mA	SPDT	2	12.55	11.92	11.30
KCP11-2500[▲]	10 mA	DPDT	2	12.40	11.78	11.16
KCP11-5000[▲]	7.2 mA	DPDT	2	12.55	11.92	11.30
KCP11-10000[▲]	5.0 mA	DPDT	2	13.50	12.83	12.15
KCP14-2500[▲]	12.3 mA	3PDT	2	15.15	14.39	13.64
KCP14-5000[▲]	8.7 mA	3PDT	2	15.35	14.58	13.82
KCP14-10000[▲]	6.1 mA	3PDT	2	16.30	15.49	14.67
LB5-2500	9.0 mA	SPDT	5	9.40	8.93	8.46
LB5-5000	6.3 mA	SPDT	5	10.05	9.55	9.05
LB5-10000	4.5 mA	SPDT	5	10.85	10.31	9.77
LM5-2500	6.3 mA	SPDT	5	13.35	12.68	12.02
LM5-5000	4.5 mA	SPDT	5	13.55	12.87	12.20
LM5-10000	3.2 mA	SPDT	5	14.75	14.01	13.28
LM11-2500	9.0 mA	DPDT	5	20.55	19.52	18.50
LM11-5000	6.3 mA	DPDT	5	20.75	19.71	18.68
LM11-10000	4.5 mA	DPDT	5	21.70	20.62	19.53
ML11D-2500	4.0 mA	DPDT	3	23.70	22.52	21.33
ML11D-5000	2.8 mA	DPDT	3	23.75	22.56	21.38
ML11D-10000	2.0 mA	DPDT	3	26.10	24.80	23.49
ML17D-2500	5.65 mA	4PDT	3	28.25	26.84	25.43
ML17D-5000	4.0 mA	4PDT	3	30.30	28.79	27.27
ML17D-10000	2.8 mA	4PDT	3	31.30	29.74	28.17
ML23D-2500	6.93 mA	6PDT	3	34.65	32.92	31.19
PW5DS[●]	6, 12, 24 VDC	SPDT	1	34.00	32.30	30.60
PW5LS-5000[●]	2.8 mA	SPDT	1	34.55	32.82	31.10
PW5LS-10000[●]	2.0 mA	SPDT	1	35.45	33.68	31.91
RS5D	6, 12 VDC	SPDT	2	12.45	11.83	11.21
RS5D-2500	5.0 mA	SPDT	2	12.60	11.97	11.34
RS5D-5000	3.5 mA	SPDT	2	13.15	12.49	11.84
RS5D-10000	2.5 mA	SPDT	2	14.35	13.63	12.92
SS5D-10000	1.0 mA	SPDT	2	50.70	48.17	45.63

[▲]Enclosed relay. [●]Sealed relay. [■]Specify coil voltage when ordering.

HIGH RELIABILITY RELAYS

FC Series: Relay meets applicable specifications of MIL-R-5757 and MSFC-SPEC-339. **Contacts:** Bifurcated, rated dry circuit to 3 amps at 28 VDC, resistive. Terminal pins arranged on a .2″ grid. **Size:** 1.10″ x .925″ x .485″. **Weight:** 0.75 oz.

FL Series: Same specifications as FC series. Dual-coil latching relay operates by pulsing each coil alternately, or by connecting the coils in series across a reversible power source. Remains latched without coil power.

HC Series: Miniature, non-polarized, non-latching, half-size crystal case relay meeting or exceeding all applicable specifications of MIL-R-5757 and complying with MSFC-SPEC-339. Hermetically welded case. **Contacts:** Gold-plated silver, rated dry circuit to 2 amps at 28 VDC, resistive. **Mounting:** HC11D, plain case and plug-in terminals; HC11DA, shoulder brackets and hook solder terminals; HC11DB, flat mounting plate and hook solder terminals. **Size:** .81″ x .41″ x .41″. **Weight:** 0.5 oz.

HCM Series: Military version of HC series; has same construction and mounting styles. Meets or exceeds appropriate sections of MIL-R-5757.

SC Series: Miniature, permanent magnet relay for low power, high shock and vibration applications. **Contacts:** Rated 2 amps at 30 VDC or 1 amp at 120 VAC. **Mounting:** SC11D, socket terminals on 0.2″ grid; SC11DA, shoulder flanges with two .104″ x .136″ holes on 1.062″ ctrs; SC11DB, welded bracket with four .125″ holes on 1.062″ x .281″ ctrs; SC11DC, two 4-40 studs on .488″ x .220″ ctrs; SC11DD, plain case with hook solder terminals. **Weight:** 2 ozs.

SL Series: Dual coil, magnetic latching version of SC series. Coils may be connected in series for polar operation.



FC, FL



HC, HCM



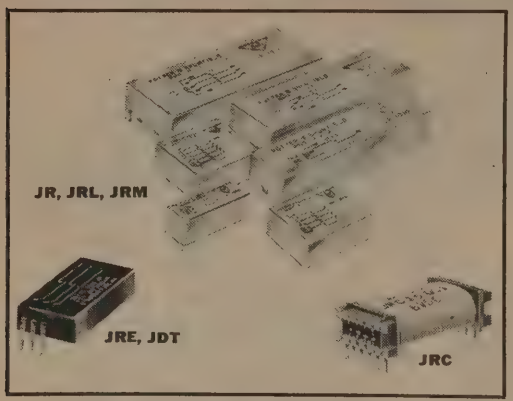
SC

P & B Number[■]	Coil Input	Contacts Arrangement	Contacts Amps, Typ.	Net Each, Lots of ★ 1-24	25-50	51-99
FC11D	6, 12, 24 VDC	DPDT	3	$59.25	$56.29	$53.33
FCH11D	24 VDC	DPDT	5	60.00	57.00	54.00
FL11D	6, 12, 24 VDC	DPDT	3	59.50	56.53	53.55
HC11D	24 VDC	DPDT	2	57.00	54.15	51.30
HC11DA	24 VDC	DPDT	2	59.15	56.19	53.24
HC11DB	24 VDC	DPDT	2	59.05	56.10	53.15
HCM11D	24 VDC	DPDT	2	46.15	43.84	41.54
HCM11DA	24 VDC	DPDT	2	48.25	45.84	43.43
HCM11DB	24 VDC	DPDT	2	47.85	45.46	43.07
SC11D	12, 24 VDC	DPDT	2	59.55	56.57	53.60
SC11DA	12, 24 VDC	DPDT	2	59.40	56.43	53.46
SC11DB	6, 12, 24 VDC	DPDT	2	58.80	55.86	52.92
SC11DC	24 VDC	DPDT	2	59.75	56.76	53.78
SC11DD	24 VDC	DPDT	2	57.75	54.86	51.98
SCG11D	24 VDC	DPDT	2	65.90	62.61	59.31
SC7141	26.5 VDC	DPDT	2	72.00	68.40	64.80
SL11D	6, 12, 24 VDC	DPDT	2	61.20	58.14	55.08
SL11DA	24 VDC	DPDT	2	61.80	58.71	55.62
SL11DB	6, 12, 24 VDC	DPDT	2	61.20	58.14	55.08
SL11DC	24 VDC	DPDT	2	62.20	59.09	55.98
SLG11D	24 VDC	DPDT	2	63.65	60.47	57.29

[■]Specify coil voltage when ordering.

SEE ANOTHER P & B PAGE FOR ACCESSORIES

★LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY



JDT DUAL THIN-LINE REED RELAYS

Low profile relays ideal for high density packaging applications. Feature hermetically sealed glass capsules in epoxy encapsulation. Dual in-line terminals on .100″ grid. Contacts will switch 10 watts max., resistive, 50 VDC or .5 amp max. Operate time is 3.5 msec including bounce; release time is 3.5 msec max. Weight: .35 to .7 oz. approx.

P & B Number	No. Cavities	Nom. V	Res. Ohms	Contact Arrangement	Net Each, Lots of 1-9	10-24	25-99
JDT7DA1	2	6	115	2A	$12.60	$ 9.40	$ 8.00
		12	460		12.60	9.40	8.00
		24	1840		13.45	10.03	8.54
JDT15DB1	4	6	115	4A	16.05	11.97	10.19
		12	460		16.05	11.97	10.19
		24	1840		16.05	11.97	10.19
JDT21DC1	6	6	100	6A	19.15	14.29	12.16
		12	400		19.15	14.29	12.16
		24	1600		19.15	14.29	12.16
JDT27DD1	8	6	60	8A	23.60	17.61	14.99
		12	240		23.60	17.61	14.99
		24	960		23.60	17.61	14.99

JRE LOW PROFILE DRY REED RELAYS

Relays have a mounted height of .360″ allowing board spacing of 0.5″. Terminals are on .1″ grid. Molded epoxy package. Each reed contact will switch a load of 10 watts, 200 VDC or 10 VA, 140 VAC. Max. contact rating is 500 mADC and 350 mAAC.

P & B Number	No. Cavities	Nom. V	Res. Ohms	Contact Arrangement	Net Each, Lots of 1-24	25-49	50-74
JRE1DA1	1	5	200	1A	$5.90	$5.31	$5.02
		6	200		5.90	5.31	5.02
		12	1264		6.10	5.49	5.19
		15	1264		6.10	5.49	5.19
		24	5056		7.10	6.39	6.04
JRE2DB1	2	5	210	1B	7.85	7.07	6.67
		12	880		7.85	7.07	6.67
		24	3600		8.20	7.38	6.97
JRE7DB1	2	5	118	2A	6.75	6.08	5.74
		12	555		6.75	6.08	5.74
		24	2250		6.75	6.08	5.74
JRE50DC1	3	5	52	1A+1B	9.30	8.37	7.91
		12	330		9.30	8.37	7.91
		24	1320		9.30	8.37	7.91

MINIATURE OPEN STYLE DRY REED RELAYS
JRC SERIES

PC terminals arranged on 0.100″ x 1.00″ grid layout. Rhodium contacts rated 10 watts max.; 0.5 amp max. and 125 V max. for DC resistive loads. Operate speed of 1 msec typ. including bounce for pick-up; 0.5 msec for drop-out. Contact protection is recommended to assure long operating life. **Size:** 1.00″ l. x .360″ h. max. Wt., 0.3 to 1.0 oz. approx.

P&B No.*	Cavity No.	Cavity Width, In.	Coil Nom. V	Coil Resis. Ohms	Contact Arrangement	Net Ea., Lots of* 1-24	25-49	50-74
JRC1DA1	1	.375	6	240	1A	$8.75	$7.88	$7.44
			12	960	1A	8.75	7.88	7.44
			24	3840	1A	8.75	7.88	7.44
JRC2DB1	2	.460	12	625	1B	10.80	9.72	9.18
			24	2500	1B	10.80	9.72	9.18
JRC7DB1	2	.460	6	155	2A	10.65	9.59	9.05
			12	625	2A	10.65	9.59	9.05
			24	2500	2A	10.65	9.59	9.05
JRC15DD1	4	.660	12	320	4A	14.60	13.14	12.41
			24	1280	4A	14.60	13.14	12.41
JRC50DD1	4	.660	12	320	1A+1B	12.35	11.12	10.50
			24	1280	1A+1B	12.35	11.12	10.50

*Specify coil voltage when ordering.

JR AND JRM SERIES DRY REED RELAYS

Fast response, reliable performance, high sensitivity and long life are characteristic of JR standard and JRM miniature relays. Specially suited for data processing applications, computer equipment, logic circuitry and various other sophisticated control circuits. Both JR and JRM relays have reed switches with either Form A (SPST-NO) or Form C (SPDT) contact configuration. Biasing with a permanent magnet changes Form A to a Form B (SPST-NC); arrangement requires that coil polarity be observed. Combining one Form A with one Form B results in a single Form C (SPDT) break-before-make. A "true" Form C (SPDT) uses a reed switch with two stationary and one movable contact (movable contact is normally closed until the coil is energized). **Size:** 2.718″ l. x 0.656″ h. max. (JR); 1.125″ l. x 0.468″ h. max. (JRM).

JR STANDARD SERIES Cavity No.	Width, Inches	Coil Power/ Capsule	Wt., Oz.	JRM MINIATURE SERIES Cavity No.	Width, Inches	Coil Power/ Capsule	Wt., Oz.
1	.687	240 mW	1.5	1	.437	180 mW	.366
2	.890	360 mW	2.0	2	.562	275 mW	.395
3	1.094	720 mW	2.5	3	.703	420 mW	.530
4	1.297	960 mW	3.0	4	.813	540 mW	.620
5	1.516	1.5 W	3.5	5	.968	720 mW	.781

JR STANDARD SERIES

P&B No.	No. Cavities	Coil Nom. V	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JR1000	1	6	150	1A	15 W	$ 7.90	$ 5.89	$ 5.02
JR1001	2	6	100	2A	15 W	10.60	7.91	6.73
JR1020	1	6	150	1A	50 W	10.15	7.57	6.45
JR1040	1	6	150	1C*	10 W	16.85	12.57	10.70
JR1041	2	6	100	2C*	10 W	18.15	13.54	11.53
JR1005	1	12	600	1A	15 W	8.25	6.15	5.24
JR1006	2	12	400	2A	15 W	10.65	7.94	6.76
JR1008	4	12	150	4A	15 W	15.85	11.82	10.06
JR1025	1	12	600	1A	50 W	10.45	7.80	6.64
JR1045	1	12	600	1C*	10 W	16.85	12.57	10.70
JR1046	2	12	400	2C*	10 W	22.15	16.52	14.07
JR1063	2	12	400	1B	15 W	10.75	8.02	6.83
JR1086	3	12	200	1A+1B	15 W	16.35	12.20	10.38
JR1010	1	24	2400	1A	15 W	8.85	6.60	5.62
JR1011	2	24	1600	2A	15 W	11.10	8.28	7.05
JR1013	4	24	600	4A	15 W	16.00	11.94	10.16
JR1030	1	24	2400	1A	50 W	11.15	8.32	7.08
JR1031	2	24	1600	2A	50 W	15.90	11.86	10.10
JR1050	1	24	2400	1C*	10 W	16.80	12.53	10.67
JR1051	2	24	1600	2C*	10 W	18.70	13.95	11.87
JR1066	2	24	1600	1B	15 W	11.25	8.39	7.14
JR1088	3	24	800	1A+1B	15 W	16.30	12.16	10.35
JR1100	1	5	104	1A	15 W	7.90	5.89	5.02
JR1101	2	5	79	2A	15 W	10.65	7.94	6.76
JR1102	1	5	104	1A	50 W	10.15	7.57	6.45
JR1103	1	5	104	1C*	10 W	16.85	12.57	10.70
JR1104	2	5	79	2C*	10 W	18.15	13.54	11.53

*True Form C.

JRM MINIATURE SERIES

P&B No.	No. Cavities	Coil Nom. V	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JRM1000	1	6	200	1A	10 W	$ 8.30	$ 6.19	$ 5.27
JRM1001	2	6	130	2A	10 W	11.45	8.54	7.27
JRM1003	4	6	67	4A	10 W	18.15	13.54	11.53
JRM1036	2	6	130	1B	10 W	10.30	7.68	6.54
JRM1048	3	6	86	1A+1B	10 W	13.10	9.77	8.32
JRM1006	1	12	800	1A	10 W	8.10	6.04	5.14
JRM1007	2	12	520	2A	10 W	11.45	8.54	7.27
JRM1009	4	12	268	4A	10 W	18.15	13.54	11.53
JRM1040	2	12	520	1B	10 W	10.35	7.72	6.57
JRM1041	3	12	344	2B	10 W	13.75	10.26	8.73
JRM1050	3	12	344	1A+1B	10 W	13.20	9.85	8.38
JRM1051	5	12	200	2A+2B	10 W	20.70	15.44	13.14
JRM1012	1	24	3200	1A	10 W	8.95	6.68	5.68
JRM1013	2	24	2080	2A	10 W	11.75	8.77	7.46
JRM1015	4	24	1072	4A	10 W	18.30	13.65	11.62
JRM1044	2	24	2080	1B	10 W	10.40	7.76	6.60
JRM1045	3	24	1376	2B	10 W	13.95	10.41	8.86
JRM1052	3	24	1376	1A+1B	10 W	13.30	9.92	8.45
JRM1053	5	24	800	2A+2B	10 W	20.70	15.44	13.14

JRL SERIES DRY REED LATCHING RELAYS

Reliable bi-stable relays designed for memory work. Single-wound coils switch contacts on polarity reversal. Needs no coil current to maintain contact in either position. Can be mounted on PC boards in any position; not position sensitive. **Contact Arrangement:** 1 Form A and 2 Form A rated 15 watts resistive. **Operate Time:** 1.0 msec at 25° C including bounce. **Size:** Same as JR standard series above. Weight, same as JR standard series above.

P&B No.	No. Cavities	Coil Nom. VDC	Coil Res. Ohms	Contacts Arrangement	Contacts Rating	Net Each, Lots of* 1-9	10-24	25-99
JRL1000	2	6	400	1 A	15 W	$11.50	$8.58	$7.30
JRL1001	2	12	1600	1 A	15 W	12.30	9.18	7.81
JRL1002	2	24	6400	1 A	15 W	12.40	9.25	7.87
JRL1012	3	6	300	2 A	15 W	15.40	11.49	9.78
JRL1013	3	12	1200	2 A	15 W	15.55	11.60	9.87

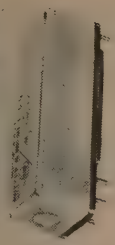
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JM SERIES MERCURY-WETTED CONTACT RELAYS



JM, JML, JMP



JMF, JMS

Reservoir of mercury and contact assembly are hermetically sealed under high pressure hydrogen atmosphere to do away with contact chatter and bounce. Make or break is positive every time. Capsule used in JMF, JMF2 (2 capsules), JML and JMS relays has a SPDT, break-before-make (Form C), non-bridging contact arrangement. Each capsule used in JM1–JM4, and JMP relays has a SPDT, make-before-break (Form D), bridging contact arrangement. JMF, JMF2, JML, JMP and JMS series achieve a high rate of sensitivity by factory-adjusted magnet biasing. Upright mounting required, but deviation from upright up to 30° causes only minor deviation in operating characteristics. **Contact Ratings:** JMF, JMF2, JML and JMS 500 volts max. and 2 amps max., with contact protection unless in a low level circuit. Details of a simple protection circuit consisting of resistor and capacitor in series are included with each relay. JM1 thru JM4 and JMP 500 volts max. and 5 amps max., 250 VA max. Octal style mounting except Fig. 41, 14-pin miniature plug; JMF, JMF2 and JMS are designed for printed circuit board mounting on 0.200″ grid spacing. Sizes given are overall.

P&B Capsule	Size, Inches Dia. x H.	P&B Capsule	Size, Inches W. x D. x H.
JM1	1.105 x 3.196	JMF	0.625 x 0.625 x 2.062
JM2, JM3	1.531 x 3.937	JMF2	1.120 x 0.78 x 2.07
JM4	1.687 x 3.562	JMS	0.625 x 0.625 x 2.062
JML	1.234 x 3.218		
JMP	1.110 x 3.665		

JMF SENSITIVE SERIES IN PC MODULE
SINGLE-SIDE-STABLE

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Must Release mADC	Net Each, Lots of ★ 1-9	10-24	25-99
JMF	1070 61	450	12.9	2.1	$28.00	$20.89	$17.78
JMF	1080 61	675	11.6	1.9	28.00	20.89	17.78
JMF	1120 61	1425	8.4	1.4	28.00	20.89	17.78
JMF	1150 61	2400	7.8	1.3	28.00	20.89	17.78
JMF	1160 61	4000	4.0	.67	29.40	21.93	18.67

JMF2 DUAL-CAPSULE SENSITIVE SERIES
SINGLE-SIDE-STABLE

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate	Must Release	Net Each, Lots of ★ 1-9	10-24	25-99
JMF2	1000 71	130	3 VDC	.5 VDC	$46.50	$34.69	$29.53
JMF2	1001 71	520	6 VDC	1 VDC	46.50	34.69	29.53
JMF2	1002 71	2200	12 VDC	2 VDC	46.50	34.69	29.53

JMP POLARIZED SERIES
SINGLE-SIDE-STABLE

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Must Release mADC	Net Each, Lots of ★ 1-9	10-24	25-99
JMP	1160 11	1000	5.60	.40	$47.40	$35.36	$30.10
JMP	1200 11	4000	2.96	.24	50.85	37.93	32.29

JMS SENSITIVE SERIES IN PC MODULE
40 mW SINGLE-SIDE-STABLE, SINGLE-WOUND COIL

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Must Release mADC	Net Each, Lots of ★ 1-9	10-24	25-99
JMS	1070 61	34	32	7.7	$33.25	$24.80	$21.11
JMS	1130 61	620	7	33	33.25	24.80	21.11
JMS	1160 61	2430	3.6	65	33.60	25.07	21.34

JML SENSITIVE SERIES
SINGLE-SIDE-STABLE

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Must Release mADC	Net Each, Lots of ★ 1-9	10-24	25-99
JML	1061 81	40	9.75	1.68	$29.20	$21.78	$18.54
JML	1110 81	350	3.56	.61	29.20	21.78	18.54
JML	1160 81	1000	2.21	.38	29.20	21.78	18.54
JML	1190 81	2500	1.43	.17	31.30	23.35	19.88
JML	1200 81	4000	1.25	.25	31.30	23.35	19.88
JML	1240 81	11000	.72	.12	31.30	23.35	19.88
JML	1260 81	25000	.52	.09	33.70	25.14	21.40

BI-STABLE

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Must Release mADC	Net Each, Lots of ★ 1-9	10-24	25-99
JML	5200 81	4000	+0.53	−0.53	$31.30	$23.35	$19.88
JML	6430 82	(1) 1100 (2) 1100	+1.76	−1.76	32.50	24.25	20.64

JM1 TO JM4 SERIES
SINGLE CAPSULE, SPDT SINGLE COIL

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Max. Volts at 35° C	Net Each, Lots of 1-9	10-24	25-99
JM1	120 11	7000	6.0	117.0	$45.95	$34.28	$29.18
JM1	121 11	11K	5.0	148.0	45.65	34.05	28.99
JM1	123 11	25K	3.6	224.0	45.95	34.28	29.18

TWO CAPSULES, DPDT SINGLE COIL

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Max. Volts at 35° C	Net Each, Lots of 1-9	10-24	25-99
JM2	104 22	50	110.0	12.25	$74.80	$55.80	$47.50
JM2	106 21	140	66.5	20.5	74.45	55.54	47.28
JM2	109 22	315	44.0	30.7	74.80	55.80	47.50
JM2	110 22	500	34.8	38.7	74.80	55.80	47.50
JM2	111 22	700	30.5	45.8	74.80	55.80	47.50
JM2	112 22	1250	22.1	61.2	74.90	55.88	47.56
JM2	115 21	5000	11.3	122.0	74.90	55.88	47.56
JM2	115 22	5000	11.3	122.0	74.90	55.88	47.56

THREE CAPSULES, 3PDT SINGLE COIL

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Max. Volts at 35° C	Net Each, Lots of 1-9	10-24	25-99
JM3	109 31	315	44.0	30.7	$101.35	$75.61	$64.36
JM3	110 31	500	34.8	38.7	101.35	75.61	64.36
JM3	115 31	5000	11.3	122.0	101.45	75.68	64.42

FOUR CAPSULES, 4PDT SINGLE COIL

Capsule	Coil and Terminal*	Coil Characteristics: Resis., Ohms (±10%)	Must Operate mADC	Max. Volts at 35° C	Net Each, Lots of 1-9	10-24	25-99
JM4	110 41	390	42.0	37.0	$135.00	$100.71	$85.73

*Last two digits indicate termination diagram figure, e.g., JML 1061 **81**, see Figure 81; JM1 106 **12**, see Figure 12.

TERMINATION DIAGRAMS


Figure 11


Figure 12

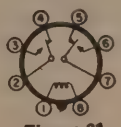

Figure 21


Figure 22


Figure 31

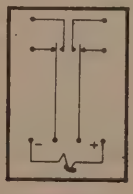

Figure 82



Figure 41


Figure 81

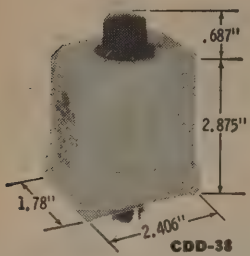

Figure 61


Figure 71

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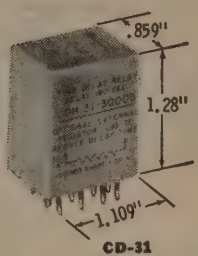
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SOLID STATE TIME DELAY RELAYS

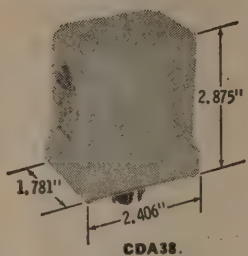


CDD-38

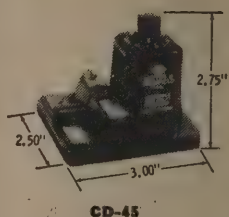
CD-31



CD-31

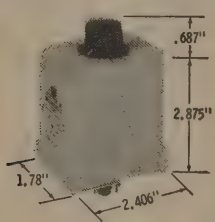


CDA38.



CD-45

CD Series: The CD series offers an unusually wide selection of operational configurations, all with accurate time delays, fast reset time and excellent repeatability. It is available in two types: Knob-adjustable in two versions, one with a relay in the same enclosure as the solid state unit, the other with an auxiliary relay. A second type is adjustable with an external resistor. **Tolerance:** ±5%. For AC units, add ±½ cycle 60 Hz. **Delta Time:** ±5%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±1% for 38 style. All others ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −40° C to +55° C. **Release Time:** 45 msec. typ.; 60 msec. max. **Recycle Time:** Less than 60 msec. for CD-38 units; 2 sec. for others. **Timing Cycle Interrupt Transfer:** None.

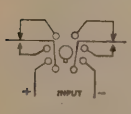


CG-38

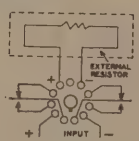
CG Series: CG relays feature a C/MOS IC controlling a DPDT relay with 10 amp contacts. The time delay is not normally affected by voltage transients. **Repeatability:** AC, ±0.1%; DC, ±0.05%. **Tolerance:** +10% −0% of max. specified at high end of dial scale; +0% −10% at low end. **Delta Time:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 30 msec. typ.; 45 msec. max. **Recycle Time:** AC, 60 msec. max.; DC, 45 msec. max. **Timing Cycle Interrupt Transfer:** None. **Weight:** Approx. 8 ozs.

P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★ 1-9	10-24	25-49
DELAY ON OPERATE								
CDA38-70012	1.0	Fixed	120 VAC	a	1	$60.20	$57.19	$54.18
CDB21-70001	1.8–180	Knob	120 VAC	b	4	58.85	55.91	52.97
CDB21-70003	0.1–10	Knob	120 VAC	b	4	58.85	55.91	52.97
CDB38-30001	0.1–10	Knob	24 VAC	a	1	66.45	63.13	59.81
CDB38-30002	0.6–6	Knob	24 VAC	a	1	66.45	63.13	59.81
CDB38-70001	0.1–1	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB38-70002	0.1–5	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB38-70003	0.1–10	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB38-70004	0.6–60	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB38-70005	1.8–180	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB38-70006	0.3–30	Knob	120 VAC	a	1	66.45	63.13	59.81
CDB45-70002	0.6–60	Knob	120 VAC	c	6	62.85	59.71	56.57
CDD21-30001	1.8–180	Knob	24 VDC	d	3	58.10	55.20	52.29
CDD21-30003	0.1–10	Knob	24 VDC	d	3	58.10	55.20	52.29
CDD38-30003	0.1–10	Knob	24 VDC	a	1	62.85	59.71	56.57
CDD38-30004	0.6–60	Knob	24 VDC	a	1	62.85	59.71	56.57
CDD38-30005	1.8–180	Knob	24 VDC	a	1	62.85	59.71	56.57
CDD38-40002	0.6–60	Knob	48 VDC	a	1	62.85	59.71	56.57
CDF31-70003	10 max.	Resistor	120 VAC	e, f	7	67.10	63.75	60.39
CDF38-70001	1 max.	Resistor	120 VAC	a, g	2	70.25	66.74	63.23
CDF38-70002	5 max.	Resistor	120 VAC	a, h	2	70.25	66.74	63.23
CDF38-70003	10 max.	Resistor	120 VAC	a, f	2	70.25	66.74	63.23
CDH31-30005	180 max.	Resistor	24 VDC	i, j	8	70.25	66.74	63.23
DELAY ON RELEASE								
CDB38-70012	0.6–60	Knob	120 VAC	a	5	$79.35	$75.38	$71.42
CDB38-70014	0.1–10	Knob	120 VAC	a	5	79.35	75.38	71.42
CDB38-70015	1.8–180	Knob	120 VAC	a	5	79.35	75.38	71.42
CDD38-30003	1.8–180	Knob	24 VDC	a	5	74.60	70.87	67.14
CDD38-30012	0.6–60	Knob	24 VDC	a	5	74.60	70.87	67.14
CDD38-30014	0.1–10	Knob	24 VDC	a	5	74.60	70.87	67.14
CDA38-70025	1.0	Fixed	120 VAC	a	5	66.85	63.51	60.17
CDB38-70016	0.1–1	Knob	120 VAC	a	5	79.35	75.38	71.42
CDB38-70051	0.1–5	Knob	120 VAC	a	5	79.35	75.38	71.42
DELAY ON OPERATE								
CGB38-70010M	1–10*	Knob	120 VAC	a	1	$75.30	$71.54	$67.77
CGB38-70050M	5–50*	Knob	120 VAC	a	1	75.30	71.54	67.77
CGB38-70100M	10–100*	Knob	120 VAC	a	1	75.30	71.54	67.77
CGD38-30010M	1–10*	Knob	24 VDC	a	1	71.05	67.50	63.95
CGD38-30050M	5–50*	Knob	24 VDC	a	1	71.05	67.50	63.95
CGD38-30100M	10–100*	Knob	24 VDC	a	1	71.05	67.50	63.95
INTERVAL ON								
CGB38-79010M	1–10*	Knob	120 VAC	a	1	$75.30	$71.54	$67.77
CGB38-79050M	5–50*	Knob	120 VAC	a	1	75.30	71.54	67.77
CGB38-79100M	10–100*	Knob	120 VAC	a	1	75.30	71.54	67.77
CGD38-39010M	1–10*	Knob	24 VDC	a	1	71.05	67.50	63.95
CGD38-39050M	5–50*	Knob	24 VDC	a	1	71.05	67.50	63.95
CGD38-39100M	10–100*	Knob	24 VDC	a	1	71.05	67.50	63.95
DELAY ON RELEASE								
CGB38-78010M	1–10*	Knob	120 VAC	a	.....	$79.10	$75.15	$71.19

a. Has internal relay with DPDT contacts rated 10 A, 120 VAC. **b.** Use with P & B KRP5AG—120 VAC, KRP11AG—120 VAC or KRP14AG—120 VAC relay. **c.** Use with P & B PRD11AY—120 VAC relay. **d.** Use with P & B KRP5DG—24 VDC, KRP11DG—24 VDC or KRP14DG—24 VDC relay. **e.** Use with P & B KHP17A11—120 VAC relay. **f.** Use 400K resistor for ½ max. time. **g.** Use 33K resistor for ½ max. time. **h.** Use 200K resistor for ½ max. time. **i.** Use 1.6 megohm resistor for ½ max. time. **j.** Use with P & B KHP17D11—24 VDC relay. *Minutes.



Dia. 1



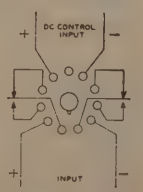
Dia. 2



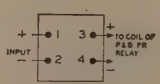
Dia. 3



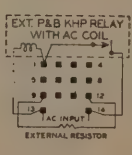
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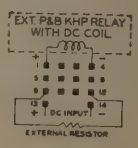
Dia. 5



Dia. 6



Dia. 7

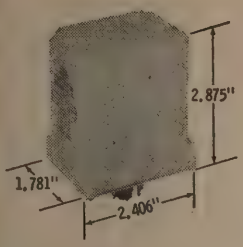


Dia. 8

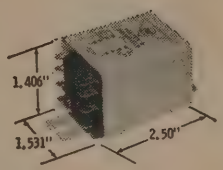
★LARGER QUANTITY PRICES ON REQUEST. PRICES SHOWN ARE FOR REFERENCE ONLY

SEE ANOTHER P & B PAGE FOR ACCESSORIES

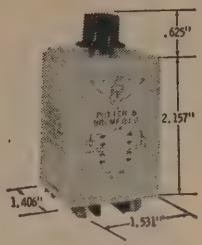
SOLID STATE TIME DELAY RELAYS



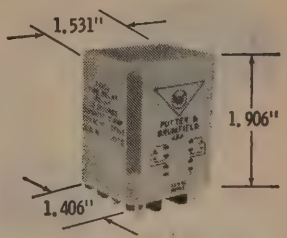
CH-38



CL-42 CU-42



CL-51 CU-51

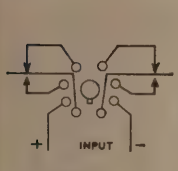


CU-41 CL-41

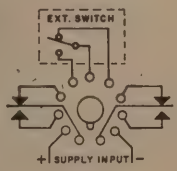
CH Series: CH relays are intended for industrial applications where economy is more important than performance. It is available as a knob-adjustable type with a relay in the same case or as a fixed time delay that is set at the factory. The CH series is available for time delay on operate or on release. **Tolerance:** Knob adj. units, −0 +20% at high end of dial scale/min. or less at low end; others, ±5%. **Delta Time:** ±10%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 125 msec. **Recycle Time:** 125 msec. **Timing Cycle Interrupt Transfer:** Contacts may transfer momentarily if timing cycle is interrupted. **Contacts:** DPDT, 10 A, 120 VAC.

CL Series: For applications where false operation cannot be tolerated. Designed for delay on operate. Includes internally mounted DPDT 10-amp relay in case. Plug-in terminals. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; res. adj. types, ±10% at high end/min. or less at low end; fixed types, ±5%. **Repeatability:** ±3%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +40° C. **Release Time:** 100 msec. **Recycle Time:** 100 msec. **Timing Cycle Interrupt Transfer:** None. UL recognized.

CU Series: Available in three types: fixed, resistor adjustable or knob adjustable. Has internal DPDT 10-amp relay. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; res. adj. types, ±10%. For AC units, add ½ cycle 60 Hz. **Repeatability:** ±3%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +40° C. **Contact Rating:** DPDT, 10 A, 120 VAC. **Release Time:** 150 msec. **Recycle Time:** 150 msec. **Timing Cycle Interrupt Transfer:** Contacts may transfer momentarily if timing cycle is interrupted. UL recognized.

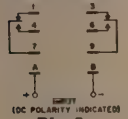


Dia. 1



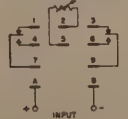
Dia. 2

FIXED & KNOB ADJUSTABLE TIME DELAY



Dia. 3

EXTERNAL RESISTOR ADJUSTABLE



Dia. 4

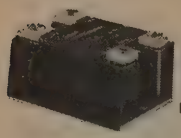
P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★ 1-9	10-24	25-49
DELAY ON OPERATE								
CHA38-70001	10	Fixed	120 VAC•	a	1	$41.30	$39.24	$37.17
CHB38-30001	1–10	Knob	24 VAC	a	1	36.85	35.01	33.17
CHB38-30003	1–180	Knob	24 VAC	a	1	36.85	35.01	33.17
CHB38-70001	1–10	Knob	120 VAC•	a	1	36.00	34.20	32.40
CHB38-70002	1–60	Knob	120 VAC•	a	1	36.00	34.20	32.40
CHB38-70003	1.8–180	Knob	120 VAC•	a	1	36.00	34.20	32.40
CHB38-80001	1–10	Knob	240 VAC•	a	1	41.25	39.19	37.13
CHD38-30001	1–10	Knob	24 VDC	a	1	43.20	41.04	38.88
CHD38-30003	1–180	Knob	24 VDC	a	1	43.20	41.04	38.88
DELAY ON RELEASE								
CHB38-30011	1–10	Knob	24 VAC	a, b	6	$53.60	$50.92	$48.24
CHB38-70011	1–10	Knob	120 VAC•	a, b	6	52.85	50.21	47.57
CHB38-70012	1–60	Knob	120 VAC•	a, b	6	52.85	50.21	47.57
CHB38-70013	1–180	Knob	120 VAC•	a, b	6	52.90	50.26	47.61
CHD38-30011	1–10	Knob	24 VDC	a, b	6	62.55	59.42	56.30
CHD38-30013	1–180	Knob	24 VDC	a, b	6	62.55	59.42	56.30
INTERVAL ON								
CHB38-70021	1–10	Knob	120 VAC•	a	1	$49.70	$47.22	$44.73
CHB38-70022	1–60	Knob	120 VAC•	a	1	49.70	47.22	44.73
CHB38-70023	1–180	Knob	120 VAC•	a	1	49.70	47.22	44.73
CHD38-30021	1–10	Knob	24 VDC	a	1	59.55	56.57	53.60
DELAY ON OPERATE								
CLA41-70010	10	Fixed	120 VAC	a	3	$33.80	$32.11	$30.42
CLB51-30010	0.1–10	Knob	24 VAC	a	3	42.00	39.90	37.80
CLB51-70010	0.1–10	Knob	120 VAC	a	3	40.15	38.14	36.14
CLB51-70030	0.3–30	Knob	120 VAC	2	3	45.90	43.61	41.41
CLB51-70120	1.2–120	Knob	120 VAC	a	3	45.65	43.37	41.09
CLF41-70010	0.1–10	Resistor	120 VAC	c	4	37.35	35.48	33.62
CLF42-70010	0.1–10	Resistor	120 VAC	c	4	37.15	35.29	33.44
CLH41-30010	0.1–10	Resistor	24 VDC	d	4	34.75	33.01	31.28
DELAY ON OPERATE								
CUA41-30010	10	Fixed	24 VAC	a	3	$29.45	$27.98	$26.51
CUA41-70001	1	Fixed	120 VAC	a	3	29.45	27.98	26.51
CUA41-70003	1–30	Knob	120 VAC	a	3	29.50	28.03	26.55
CUA41-70005	5	Fixed	120 VAC	a	3	29.55	28.07	26.60
CUA41-70010	10	Fixed	120 VAC	a	3	29.55	28.07	26.60
CUA41-70120	120	Fixed	120 VAC	a	3	29.55	28.07	26.60
CUA42-30010	10	Fixed	24 VAC	a	3	29.45	27.98	26.51
CUA42-70010	10	Fixed	120 VAC	a	3	29.55	28.07	26.60
CUA42-70120	120	Fixed	120 VAC	a	3	29.55	28.07	26.60
CUB51-70010	1–10	Knob	120 VAC	a	3	38.70	36.77	34.83
CUB51-70030	1–30	Knob	120 VAC	a	3	38.70	36.77	34.83
CUB51-70060	1–60	Knob	120 VAC	a	3	38.70	36.77	34.83
CUB51-70010	1–10	Knob	120 VAC	a	3	38.70	36.77	34.83
CUB51-70120	1–120	Knob	120 VAC	a	3	38.70	36.77	34.83
CUC41-30010	10	Fixed	24 VDC	a	3	29.80	28.31	26.82
CUC41-30120	120	Fixed	24 VDC	a	3	30.00	28.50	27.00
CUC42-30010	10	Fixed	24 VDC	a	3	29.75	28.26	26.78
CUC42-30120	120	Fixed	24 VDC	a	3	30.00	28.50	27.00
CUF41-30010	1–10	Resistor	24 VAC	c	4	32.50	30.88	29.25
CUF41-70010	1–10	Resistor	120 VAC	c	4	33.30	31.64	29.97
CUF41-70030	1–30	Resistor	120 VAC	e	4	33.30	31.64	29.97
CUF41-70120	1–120	Resistor	120 VAC	f	4	33.30	31.64	29.97
CUF42-30010	1–10	Resistor	24 VAC	c	4	32.40	30.78	29.16
CUF42-70010	1–10	Resistor	120 VAC	c	4	33.30	31.64	29.97
CUF42-70120	1–120	Resistor	120 VAC	f	4	33.30	31.64	29.97
CUH41-30010	1–10	Resistor	24 VDC	d	4	32.40	30.78	29.16
CUH41-30120	1–120	Resistor	24 VDC	g	4	32.40	30.78	29.16
CUH42-30010	1–10	Resistor	24 VDC	d	4	32.35	30.73	29.12
CUH42-30120	1–120	Resistor	24 VDC	g	4	32.35	30.73	29.12

a. Has internal relay with DPDT contacts rated 10 A, 120 VAC, except CU series, 10 A, 250 VAC. **b.** External switch or relay required. **c.** Use 200K for max time. **d.** Use 160K for max. time. **e.** Use 600K for max. time. **f.** Use 2.4 megohm for max time. **g.** Use 2 megohm for max. time. •Not recommended for continuous duty.

PRICES SHOWN ARE FOR REFERENCE ONLY

★LARGER QUANTITY PRICES ON REQUEST (SEE ANOTHER P & B PAGE FOR ACCESSORIES)

EOM-EOT SOLID-STATE RELAYS


EOM


EOT1DC


EOT1DB

P & B Number*	Input DC	Input mA	Output Volts	Output Amps*	Net Each, Lots of 1-9	10-24	25-49	50-Up
EOM1DB22	3-32	15	120	2(4)	$17.85	$16.07	$14.46	$13.03
EOM1DB42	3-32	15	120	4(8)	19.70	17.73	15.96	14.38
EOM1DB52	3-32	15	120	5(12)	20.25	18.23	16.40	14.78
EOM1DB72	3-32	15	120	7(20)	23.20	20.88	18.79	16.94
EOM1DB24	3-32	15	240	2(4)	19.40	17.46	15.71	14.16
EOM1DB44	3-32	15	240	4(8)	21.25	19.13	17.21	15.51
EOM1DB54	3-32	15	240	5(12)	21.75	19.58	17.62	15.88
EOM1DB74	3-32	15	240	7(20)	24.10	21.69	19.52	17.59
EOM1DB22	5, 12, 24	11	120	2(4)	15.65	14.09	12.68	11.42
EOM1DB42	5, 12, 24	11	120	4(8)	17.50	15.75	14.18	12.78
EOM1DB52	5, 12, 24	11	120	5(12)	18.05	16.25	14.62	13.18
EOM1DB72	5, 12, 24	11	120	7(20)	21.00	18.90	17.01	15.33
EOM1DB24	5, 12, 24	11	240	2(4)	17.20	15.48	13.93	12.56
EOM1DB44	5, 12, 24	11	240	4(8)	19.05	17.15	15.43	13.91
EOM1DB54	5, 12, 24	11	240	5(12)	19.55	17.60	15.84	14.27
EOM1DB74	5, 12, 24	11	240	7(20)	21.90	19.71	17.74	15.99
EOT1DB22	3-32	15	120	2(4)	14.80	13.32	11.99	10.80
EOT1DB42	3-32	15	120	4(8)	16.80	15.12	13.61	12.26
EOT1DB52	3-32	15	120	5(12)	17.35	15.62	14.05	12.67
EOT1DB72	3-32	15	120	7(20)	21.30	19.17	17.25	15.55
EOT1DC22	3-32	15	120	2(4)	14.80	13.32	11.99	10.80
EOT1DC42	3-32	15	120	4(8)	16.75	15.08	13.57	12.23
EOT1DC52	3-32	15	120	5(12)	17.30	15.57	14.01	12.63
EOT1DC72	3-32	15	120	7(20)	21.30	19.17	17.25	15.55
EOT1DC24	3-32	15	240	2(4)	16.00	14.40	12.96	11.68
EOT1DC44	3-32	15	240	4(8)	18.00	16.20	14.58	13.14
EOT1DC54	3-32	15	240	5(12)	18.45	16.61	14.94	13.47
EOT1DC74	3-32	15	240	7(20)	23.20	20.88	18.79	16.94
EOT1DC22	5, 12, 24	11	120	2(4)	12.75	11.48	10.33	9.31
EOT1DC42	5, 12, 24	11	120	4(8)	14.70	13.23	11.91	10.73
EOT1DC52	5, 12, 24	11	120	5(12)	15.25	13.73	12.35	11.13
EOT1DC72	5, 12, 24	11	120	7(20)	19.20	17.28	15.55	14.02
EOT1DC24	5, 12, 24	11	240	2(4)	13.95	12.56	11.30	10.18
EOT1DC44	5, 12, 24	11	240	4(8)	15.95	14.36	12.92	11.64
EOT1DC54	5, 12, 24	11	240	5(12)	16.40	14.76	13.28	11.97
EOT1DC74	5, 12, 24	11	240	7(20)	21.15	19.04	17.13	15.44

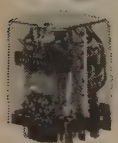
The EOM-EOT Series feature a solid-state switch controlled and isolated by an opto-electronic coupler. Both feature zero voltage turn-on and zero current turn-off. Life expectancy is greater than 100 million operations at rated values. The EOM-EOT may be driven directly by DTL, TTL, ECL, HTL or MOS logic. The EOM has screw terminals. The EOT has .250" quick-connect terminals. Non-hermetic seal. Approx. weight: 4.5 ozs. Maximum load current derating is linear between 25° C and 55° C ambient. At 55° C, the rating is 60% of that at 25° C.

*Specify input voltage when ordering. *First value is without heat sink; value in () is with factory recommended heat sink of 10" x 10" x .125" aluminum with silicon grease.


ECT


EBT


KUR


KUA


EAX

EBT SERIES SOLID STATE HYBRID RELAYS

Combines the input/output isolation of a reed relay with the inrush switching capabilities and long life of a solid state switch. EBT relays switch 7 A, 60 Hz at 25° ambient temperature with nominal load voltage of 120 V. Rated 5 A rms, 60 Hz at 55° C ambient. Min. operating current, 200 mA, 60 Hz. Expected life, greater than 10 million bounce-free operations. Operate time, typical turn-off is at first zero-crossover. Typical "closed contact" voltage drop, 1.1 V. Octal terminals for standard 8-pin socket. Weight, approximately 5.5 oz. UL recognized.

P & B No.*	Contacts	Nominal Voltage†	Net Each, Lots of 1-9	10-24	25-49	50-Up
EBT1DA52	SPST	12, 24	$13.55	$12.20	$10.98	$9.89

*Specify coil voltage when ordering. †VDC.

KUA SOLID STATE AMPLIFIER-DRIVEN RELAY

Amplifier driven KUP relay operates from low power signals associated with IC circuits. Input sensitivity of 60 μW. Control signal of 2.4 VDC at 25 μA approx. operates relay at specified voltage. Control signal 30 VDC or 1 mA max. Must release control voltage 0.5 VDC at specified supply voltage. Polarity protection. Gold-flashed fine silver contacts switch 5 A at 28 VDC resis. or 120 V, 60 Hz, 80% PF. Clear polycarbonate case; .187" quick-connect/solder terminals fit KU sockets. Weight, 3.5 oz. approx.

KUA5G11	SPDT	24 VDC	$15.40	$13.86	$12.47	$11.24
KUA11G11	DPDT	24 VDC	15.65	14.09	12.68	11.42

KUR SERIES SOLID STATE HYBRID RELAYS

KUR direct action impulse relays for applications requiring on-off operation or alternate energizing of two loads. Solid state flip-flop circuit precedes permanent magnet latching relay; allows relay to remain latched during complete power loss. Requires 25 msec min. pulse width; up to 1200 pulses per minute repetition rate. Gold-flashed fine silver contacts rated 5 amps at 28 VDC or 120 VAC, 80% PF. Terminals are .187" quick-connect/solder type and fit standard KU sockets. Yellow plastic cover. Weight, 3½ ozs. approx.

KUR11D11	DPDT	24 VDC	$31.40	$28.26	$25.43	$22.92

EAX SERIES SOLID-STATE RELAYS

The EAX Series consists of a solid-state output switch controlled and isolated by a toroidal transformer that is driven by a pulse circuit. The series is compatible with TTL, MOS and I^2L logic. Input current is a maximum of 12 mA at all input voltages. Load current is 1.2 amp, 120 VAC, 50/60 Hz, at 25° C and is derated linearly to +55° C. Operate time is 0.5 msec. max.; typical turn-off is at first zero-crossover. **Size:** 1.74" x 1.44" x 0.8". **Weight:** Approx. 1 oz.

P & B Number*	Input DC Volts	Contact AC Volts	Net Each, Lots of 1-9	10-24	25-49	50-99
EAX1DA12	5	120	$12.30	$11.07	$9.96	$8.98
EAX1DA12	12	120	12.30	11.07	9.96	8.89
EAX1DA12	24	120	12.30	11.07	9.96	8.98

*Specify coil voltage when ordering.

ECT SOLID STATE HYBRID RELAYS

ECT series is a medium power triac controlled and isolated by a reed relay. Input power is 290 mW for a 120 VAC, 50/60 Hz line or 450 mW for a 240 VAC line. Expected life is in excess of 10 million operations. Operate time is 2 msec max.; typical turn-off is at first zero-crossover. Contacts SPST-N.O. **Size:** 2.64" x 1.50" x 1.52". UL recognized.

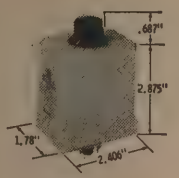
P & B No.*	Input Volts	Input mA	Contact Amps*	Net Each, Lots of 1-9	10-24	25-49	50-99
ECT1DB44	24	12	4(8)	$11.30	$10.17	$ 9.15	$ 8.25
ECT1DC22	5	57	2	10.05	9.05	8.14	7.34
ECT1DC22	12	24	2	10.05	9.05	8.14	7.34
ECT1DC22	24	12	2	10.05	9.05	8.14	7.34
ECT1DC42	5	57	4	11.75	10.58	9.52	8.58
ECT1DC42	12	24	4	11.75	10.58	9.52	8.58
ECT1DC42	24	12	4	11.75	10.58	9.52	8.58
ECT1DC52	5	57	5(12)	12.75	11.48	10.33	9.31
ECT1DC52	12	24	5(12)	12.75	11.48	10.33	9.31
ECT1DC52	24	12	5(12)	12.75	11.48	10.33	9.31
ECT1DC72	5	57	7(20)	15.30	13.77	12.39	11.17
ECT1DC72	12	24	7(20)	15.30	13.77	12.39	11.17
ECT1DC72	24	12	7(20)	15.30	13.77	12.39	11.17
ECT1DC24	5	89	2	9.75	8.78	7.90	7.12
ECT1DC24	12	37.5	2	9.75	8.78	7.90	7.12
ECT1DC24	24	18.8	2	9.75	8.78	7.90	7.12
ECT1DC44	5	89	4	11.25	10.13	9.11	8.21
ECT1DC44	12	37.5	4	11.25	10.13	9.11	8.21
ECT1DC44	24	18.8	4	11.25	10.13	9.11	8.21
ECT1DC54	5	89	5(12)	14.85	13.37	12.03	10.84
ECT1DC54	12	37.5	5(12)	14.85	13.37	12.03	10.84
ECT1DC54	24	18.8	5(12)	14.85	13.37	12.03	10.84
ECT1DC74	5	89	7(20)	14.95	13.46	12.11	10.91
ECT1DC74	12	37.5	7(20)	14.95	13.46	12.11	10.91
ECT1DC74	24	18.8	7(20)	14.95	13.46	12.11	10.91

*Specify input voltage when ordering. *First value is without heat sink; value in () is with factory recommended heat sink of 10" x 10" x .062" aluminum with silicon grease.

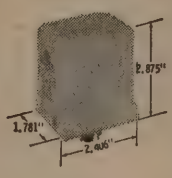
SEE ANOTHER P & B PAGE FOR ACCESSORIES

PRICES SHOWN ARE FOR REFERENCE ONLY

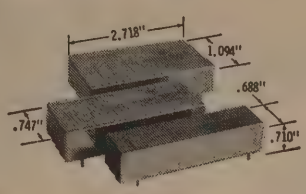
SOLID STATE TIME DELAY RELAYS



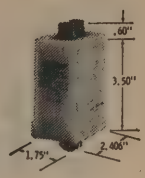
CK-38



CK-38



CJ Series



CR Series

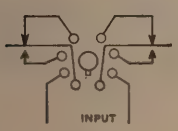
CK Series: Available in three types: fixed time, resistor adjustable, and knob adjustable for AC or DC operation. Will not false operate and will time as low as 0.1 sec. All include a DPDT relay rated 10 amps. Has octal-type plug-in terminals. **Tolerance:** Knob adj. types, −0 +20% of max. at high end of dial scale/min. or less at low end; others, ±5%. For AC units, add ½ cycle 60 Hz. **Delta Time:** ±10%. For AC units, add 1 cycle 60 Hz. **Repeatability:** ±2%. For AC units, add 1 cycle 60 Hz. **Oper. Temp. Range:** −10° C to +55° C. **Contact Rating:** 10 A, 120 VAC. **Release Time:** 60 msec. **Recycle Time:** 60 msec. **Timing Cycle Interrupt Transfer:** None.

CJ Series: Time delay dry reed relays available. **Tolerance:** Fixed, ±5%; res. adj., ±10% of max. at high end of dial scale/min. or less at low end. **Delta Time:** ±10%. **Repeatability:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Release Time:** 50 msec. **Recycle Time:** 50 msec. **Timing Cycle Interrupt Transfer:** None.

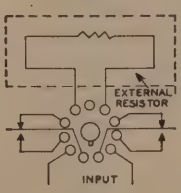
CR Series: The CR series recycle timer has two control knobs for adjusting ON and OFF delays. The recycling sequence is initiated by applying power to the terminals. When the first preset delay is complete, the normally OFF contacts transfer to ON, at which time the ON delay begins. If power is removed during any part of the operate cycle, the relay will revert to its OFF state (contacts open). **Tolerance:** −0 +20% at max. time/min. or less at min. time. **Delta Time:** ±10%. **Repeatability:** ±2%. **Oper. Temp. Range:** −10° C to +55° C. **Contact Rating:** 10 A, 120 VAC. **Release Time:** 60 msec.

P & B Number	Delay Seconds	Method of Control	Input Volts	Notes	Dia. No.	Net Each, Lots of★ 1-9	10-24	25-49
DELAY ON OPERATE								
CKA38-70010	10	Fixed	120 VAC	a	1	$37.05	$35.20	$33.35
CKB38-30010	0.1–10	Knob	24 VAC	a	1	37.30	35.44	33.57
CKB38-70010	0.1–10	Knob	120 VAC	a	1	37.30	35.44	33.57
CKB38-70060	0.6–60	Knob	120 VAC	a	1	38.55	36.62	34.70
CKB38-70120	1.2–120	Knob	120 VAC	a	1	43.00	40.85	38.70
CKB38-70180	1.8–180	Knob	120 VAC	a	1	55.05	52.30	49.55
CKD38-20010	0.1–10	Knob	12 VDC	a	1	36.15	34.34	32.54
CKF38-70010	0.1–10	Resistor	120 VAC	a, b	2	37.15	35.29	33.44
CKH38-30010	0.1–10	Resistor	24 VDC	a, b	2	35.95	34.15	32.36
DELAY ON RELEASE								
CKB38-78010	0.1–10	Knob	120 VAC	a	3	$47.15	$44.79	$42.44
P & B Number	**Delay Seconds**	**Method of Control**	**Input Volts**	**Notes**	**Dia. No.**	**Net Each, Lots of★ 1-9**	**10-24**	**25-49**
DELAY ON OPERATE								
CJH01-20010	0.1–10	Resistor	12 VDC	b	4	$38.85	$36.91	$34.97
CJH01-20120	1–120	Resistor	12 VDC	c	4	44.30	42.09	39.87
CJH01-30010	0.1–10	Resistor	24 VDC	b	4	38.85	36.91	34.97
CJH01-30120	1–120	Resistor	24 VDC	c	4	44.30	42.09	39.87
CJH03-20010	0.1–10	Resistor	12 VDC	b	5	42.65	40.52	38.39
CJH03-30010	0.1–10	Resistor	24 VDC	b	5	42.70	40.57	38.43
P & B Number	**Delay Seconds**	**Method of Control**	**Input Volts**	**Notes**	**Dia. No.**	**Net Each, Lots of★ 1-9**	**10-24**	**25-49**
DELAY ON OPERATE AND RELEASE								
CRB48-30180	1.8–180	Knob	24 VAC	a	1	121.90	115.81	109.71
CRB48-70010	0.1–10	Knob	120 VAC	a	1	77.90	74.01	70.11
CRB48-70060	0.6–60	Knob	120 VAC	a	1	87.25	82.89	78.53
CRB48-70180	1.8–180	Knob	120 VAC	a	1	104.95	99.70	94.46
CRD48-30180	1.8–180	Knob	24 VDC	a	1	100.75	95.71	90.68

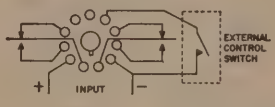
a. Has internal relay with DPDT contacts rated at 10 A, 120 VAC. **b.** Use 750K resistor for max. time. **c.** Use 1.8 megohm resistor for max. time.



Dia. 1



Dia. 2



Dia. 3



Dia. 4 N/O RED DOT



Dia. 5 RED

CS SERIES SOLID STATE VOLTAGE SENSORS



CS series voltage sensor is designed to energize and de-energize its internal relay at predetermined voltages. Desired values are either fixed or knob adjustable. Fixed sensors are factory set—cannot be changed; knob-adjustable versions allow the levels to be varied over a selected range. Voltage sensors consist of sensing circuit that turns on or off a solid state switch, energizing or de-energizing the internal relay. Both the solid state switch and DPDT relay are enclosed in molded nylon dust cover. Reverse polarity protection on DC types. Octal mounting plug. **Load Switching Relay:** 2 Form C (DPDT) rated 10 amps at 28 VDC resistive or 120 VAC resistive. **Temp. Range:** −10° C to +55° C. **Temp. Coefficient:** 0.2%/° C max. **Repeatability:** ±1% max. **Size:** 2.406" x 1.781" x 4.035" (including knob and mounting plug). Weight, 8 oz. approx.

P&B Number	Pick-Up Volts	Drop-Out Volts	Type Voltage	Net 1-9★
FIXED PICKUP TIME/ADJUSTABLE DROPOUT TIME				
CSJ38-30010	20–30	18–28	AC (50/60 Hz)	$42.20
CSJ38-70010	92–140	90–138	AC (50/60 Hz)	43.45
CSL38-30010	20–30	18–28	DC	42.15
CSL38-60010	92–140	90–138	DC	44.40
ADJUSTABLE PICKUP TIME/ADJUSTABLE DROPOUT TIME				
CSJ38-71010	105	90–103	AC (50/60 Hz)	$38.00
CSL38-31010	22	16–21	DC	35.15

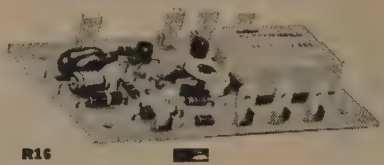
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SEE ANOTHER P & B PAGE FOR ACCESSORIES

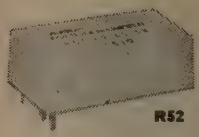
SOLID STATE TIME DELAY RELAYS



R12, R14, R15



R16



R52

R12 Series: Small size DPDT with 5 amp contacts and silicon transistor circuitry. Delay time .1 to 120 seconds in three ranges; no false operation. Time is varied with high-resolution 15-turn potentiometer. Solder/plug-in terminals. **Tolerance:** −0% +60% of max. at high end of potentiometer; min. or less at low end. **Delta Time:** ±10%. **Repeatability:** ±3% at 25° C. **Recycle Period:** 100 msec. **Timing Cycle Interrupt Transfer:** None. **Temp. Range:** −10° C to +55° C. **Weight:** 1.7 ozs.

R14 Series: DC operated, fixed or externally adjustable time delay relay available in five ranges from .25 to 600 seconds. The coil is polarity protected. Shock rated at 15 g. operating and 30 g. mechanical.

R15 Series: AC operated fixed or externally adjustable time delay relay available in three timing ranges from 0.5 to 60 seconds. Shock rated at 15 g. operating and 30 g. mechanical. **Tolerance at 25° C:** Fixed, ±25%. **Repeatability:** ±3%. **Recycle Period:** 200 msec. **Timing Cycle Interrupt Transfer:** None. **Temp. Range:** −10° C to +55° C. **Weight:** 1.7 ozs.

P & B Number	Delay Seconds	Input Volts	Contacts Arrangement	Contacts Rating▲ Typ. (max.)	Dia. No.	Net Each, Lots of★ 1-9	10-49	50-99
DELAY ON OPERATE								
R12-2-12-X2-E1	0.1–2	12 VDC	DPDT	5	1	$31.60	$28.44	$25.28
R12-2-24-X2-E1	0.1–2	24 VDC	DPDT	5	1	31.60	28.44	25.28
R12-30-12-X2-E1	1.0–30	12 VDC	DPDT	5	1	32.40	29.16	25.92
R12-30-24-X2-E1	1.0–30	24 VDC	DPDT	5	1	32.40	29.16	25.92
R12-120-12-X2-E1	5.0–120	12 VDC	DPDT	5	1	35.00	31.50	28.00
R12-120-24-X2-E1	5.0–120	24 VDC	DPDT	5	1	35.00	31.50	28.00
R14-2A-12-X2-E1	.25–2	12 VDC	DPDT	5	2	27.65	24.89	22.12
R14-2A-12-X4-E1	.25–2	12 VDC	4PDT	5	4	29.85	26.87	23.88
R14-30A-24-X2-E1	.5–30	24 VDC	DPDT	5	2	28.90	26.01	23.12
R14-30A-24-X4-E1	.5–30	24 VDC	4PDT	5	4	31.20	28.08	24.96
R14-120A-24-X2-E1	5–120	24 VDC	DPDT	5	2	30.25	27.23	24.20
R14-120A-24-X4-E1	5–120	24 VDC	4PDT	5	4	32.50	29.25	26.00
R15-18A-24-W2-E1	.5–10	24 VAC	DPDT	10	2	32.60	29.34	26.08
R15-30A-115-X2-E1	.5–30	115 VAC	DPDT	5	2	32.70	29.43	26.16
R15-60A-115-Y2-E1	1–60	115 VAC	DPDT	2	2	32.25	29.03	25.80
R16-30A-24A-Y2	2.0–30	24 VAC	DPDT	2(3)	5	22.55	20.30	18.04
R16-30A-120A-Y2	2.0–30	120 VAC	DPDT	2(3)	5	23.85	21.47	19.08
R52-2B-1E1	0.2–2.0	4.5–30 VDC	SPST-NO	.35*	6	8.20	7.38	6.56
R52-30B-1E1	2.0–30	4.5–30 VDC	SPST-NO	.35*	6	8.20	7.38	6.56
R52-100B-1E1	5–100	4.5–30 VDC	SPST-NO	.35*	6	8.85	7.97	7.08

▲At 28 VDC or 115 VAC resistive, except R52 series, 4.5 to 30 VDC. *At 25° C, derated to .26 A at +55° C.

R14/R15 TIMING RESISTOR

Max. Delay Time	Resistance
2 sec.	1.32 meg
10 sec.	434K
30 sec.	1.32 meg
120 sec.	1.32 meg
300 sec.	1.65 meg

For minimum time, short the external-resistor terminals together.

R16 Series: Available in the timing range of 2 to 30 seconds. A potentiometer is used to set the timing values. Relay and timing components are mounted on a glass epoxy circuit board having .25" quick-connect terminals. **Tolerance:** Potentiometer adjustable. **Delta Time:** ±10%. **Repeatability:** ±3% max. **Recycle Time:** 100 msec. typical. **Oper. Temp. Range:** −10° C to +55° C. **Timing Cycle Interrupt Transfer:** Momentary for AC inputs. **Weight:** 1.5 ozs. approx.

R52 Series: Low cost, solid state timing modules can make time delay relays of all but a few of the P & B 5, 6, 12 and 24 VDC relays. R52 will conduct 350 mA at voltages from 4.5 to 30 VDC. **Tolerance:** ±25% plus that of the timing resistor. **Delta Time:** ±10%. **Repeatability:** ±3%. **Release Time:** 100 msec. **Recycle Time:** 100 msec. **Timing Cycle Interrupt Transfer:** None. **Oper. Temp. Range:** −10° C to +55° C. **Weight:** 2 ozs.

R52 TIMING RESISTOR

Max. Time Delay	Resistance
2 sec.	1.20 meg
30 sec.	1.24 meg
100 sec.	1.1 meg

For minimum time, short the external-resistor terminals together.



Dia. 1



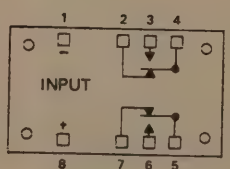
Dia. 2



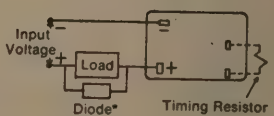
Dia. 3



Dia. 4



Dia. 5



Dia. 6

★ LARGER QUANTITY DISCOUNTS AVAILABLE. PRICES SHOWN ARE FOR REFERENCE ONLY

SEE ANOTHER P & B PAGE FOR ACCESSORIES

SOCKETS

P & B Number	For Relay	Contacts	Terminals	Net Each ★
27E006	KHS, KHU, CD-31	4PDT	Solder	$1.01
27E007			Printed circuit	1.04
27E166			Screw—5A	9.70
27E043	KUP, KUMP	SPDT,	Solder—10A	1.27
27E046	in plain case	DPDT,	Printed circuit	1.50
27E067	KUA, KUL,	3PDT	.187″ Q.C.—10A	2.00
27E121	KUR, CU, CL		Screw—10A	6.34
27E396			.187″ Q.C.	2.00
27E400			Solder	1.27
27E062	HP, HPS, HCM	DPDT	Solder	1.35
27E118	KNP	SPDT,	Solder	1.09
27E119		DPDT, 3PDT	Printed Circuit	1.09
27E122	EBA, EBT†	8-pin	Screw—10A	4.00
27E123		11-pin	Screw—10A	5.99
27E125	R10, R10S	DPDT	Solder*	.84
27E701		DPDT	Solder*■	1.04
27E126		4PDT	Solder*	1.06
27E702		4PDT	Solder*■	1.38
27E127		6PDT	Solder*	1.35
27E703		6PDT	Solder*■	1.79
27E211		8PDT	Solder*	2.09
27E704		8PDT	Solder*■	2.65
27E162		DPDT	Solder	.84
27E705		DPDT	Solder■	1.04
27E163		4PDT	Solder	1.06
27E706		4PDT	Solder■	1.38
27E164		6PDT	Solder	1.35
27E128		DPDT	Printed circuit*	.84
27E709		DPDT	Printed circuit*■	1.04
27E129		4PDT	Printed circuit*	1.06
27E710		4PDT	Printed circuit*■	1.38
27E130		6PDT	Printed circuit*	1.35
27E711		6PDT	Printed circuit*■	1.79
27E254		8PDT	Printed circuit*	2.09
27E193		DPDT	Printed circuit§	.84
27E717		DPDT	Printed circuit§■	1.04
27E194		4PDT	Printed circuit§	1.06
27E740		4PDT	Printed circuit§■	1.38
27E195		6PDT	Printed circuit§	1.35
27E215		DPDT	Printed circuit♯	6.14
27E732		DPDT	Printed circuit♯■	6.34
27E216		4PDT	Printed circuit♯	7.05
27E734		4PDT	Printed circuit♯■	7.37
27E212		DPDT	Printed circuit	.84
27E713		DPDT	Printed circuit■	1.04
27E213		4PDT	Printed circuit	1.06
27E714		4PDT	Printed circuit■	1.38
27E271		6PDT	Printed circuit	1.35
27E715		6PDT	Printed circuit■	1.79
27E317		DPDT	Solder▲	1.39
27E152		4PDT	Solder▲	1.61
27E737		4PDT	Solder▲■	1.93
27E169		6PDT	Solder▲	1.90
27E131	R12	DPDT	Solder*	1.35
27E132			Printed circuit*	1.35
27E328	R14, R15	DPDT, 4PDT	Solder*	2.09
27E323	R40	4PDT	Printed circuit♯	2.20
27E134			Printed circuit	1.85
27E135			Solder●	2.22
27E487	K10	DPDT	Screw	4.91
27E488		DPDT	Solder	1.28
27E489		DPDT	Printed circuit	1.34

†And KAP, KBP, KCP, KRP, KRP3_H, CD21, CD38, CH, CK, CR, and CS38. *Has grounding strip for 5 amps or less AC. §Has grounding terminals for 5 amps or less AC. ♯Right-angle mounting. ●Chassis mount. ▲Has mounting bracket. ■With gold flash on terminals.

RELAY COVERS

Model 35D013—Metal dust cover for PRD Series only. Net Each..... $7.06

Model 35D070—Clear polycarbonate case for mounting components. Octal plug termination. Net Each..... $1.13

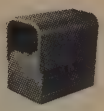
Model 35D072—Same as 35D070, except 11-pin plug termination. Net Each..... $1.35

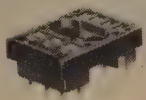
Model 35D130—Metal dust cover for MS/MR Series only. Net Each..... $5.97

Model 35D203—Plastic dust cover for PM Series only. Net Each..... $1.66

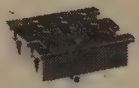
Model 35D227—Metal dust cover for PM Series only. Net Each..... $8.55


37D645


35D227


27E126


27E123


27E119

RELAY MOUNTING STRIPS

P & B Number	No. of Sockets and Type	Size, Inches	Net Each★
37D632	6 KU*	11.9″ x 3.00″ x .062″	$2.52
37D633♯	8 KH†, 8 K10	10.9″ x 2.25″ x .062″	1.95
37D645♯	10 R10-R15	12.00″ x 2.56″ x .064″	1.83

♯Breakaway strips will mount from one relay to the maximum number shown. *Except No. 27E121. †Except No. 27E166.

SOCKET RETAINERS

P & B Number	Used With Socket No.	Net Each ★
24A032	27E006	$0.08
24A051	27E062	.23
24A060	27E135	.10

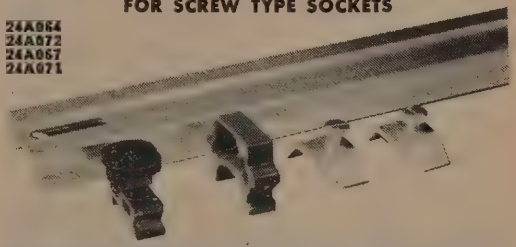
HOLD-DOWN SPRINGS

P & B Number	Use With Relays	Net Each ★
20C176	KCP, KRP	$0.29
20C206	KAP, KRP3_H	.27
20C217	CD-31, KHS, KHU, K10	.21
20C228	CL, CU, KUA, KUL, KUMP*, KUP*, KUR	.29
20C246	KNP	.19
20C247	CL-51, CU, KUL	.40
20C249	R10/2P	.10
20C250	R10/4P	.10
20C251	R10/6P	.10
20C252	R40	.10
20C259	R10S-E2	.10
20C266	R10/8P, R14, R15	.10
20C297	K10	.21
20C300	R10S/2P	.15
20C301	R10S/4P	.15

*Plain case.

TRACK MOUNT SYSTEM FOR SCREW TYPE SOCKETS

24A064
24A072
24A067
24A071



For mounting several industrial screw type sockets. **No. 24A064:** Three ft. aluminum track with slotted holes on 6″ centers for #8 screws. **No. 24A072:** Plastic clip for mounting 27E122 and 27E123 sockets; two required per socket. **No. 24A071:** Aluminum retaining clip and 6-40 screw for mounting 27E121, 27E122, 27E123, and 27E166 sockets; two required per socket. **No. 24A067:** Plastic twist-clip for mounting 27E487 socket; two required per socket.

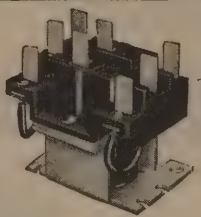
P & B Number	Description	No. Required per Socket	Net Each ★
24A064	Aluminum track	.....	$3.13
24A072	Plastic clip	2	.19
24A067	Plastic twist clip	2	.20

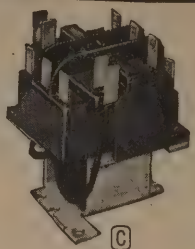
PRICES SHOWN ARE FOR REFERENCE ONLY

★LARGER QUANTITY PRICES ON REQUEST

ESSEX STANCOR AC Relays


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AC GENERAL PURPOSE RELAYS

Operate in any position. Coils are for 60 Hz operation. Ratings listed are continuous unless noted otherwise. **Breakdown Voltage:** 1500 V rms, 60 Hz, opposite polarity or to ground; 1000 V rms, 60 Hz, open contacts same polarity. **Electrical Life:** 100,000 operations at rated load.

Fig. A. Type 84—Totally enclosed type with silver alloy contacts rated at 125/250 VAC. Models 84-922-928 rated 3 amps at 125 VAC or 1.5 amps at 250 VAC pilot duty. All others: SPNO—16 amps, resistive; 8 amps (25 amps inrush) inductive. SPDT—8 amps resistive; 8 amps (18 amps inrush) inductive. Models 84-901-908 have screw terminals; models 84-912–928 have ¼" tab terminals. **Size:** 2⅜" × 1⅝" × 1½" overall. Mounting hardware included in boxed quantity only.

Part No.	Contacts	Coil V (50/60 Hz)	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
84-901	SPNO	6	$7.13	$6.75	$6.00	$5.68	$4.68
84-902	SPNO	24	8.29	7.85	6.98	6.61	5.28
84-903	SPNO	120	8.66	8.19	7.28	6.90	5.50
84-904	SPNO	230/240	9.05	8.57	7.62	7.21	5.74
84-906	SPDT	24	9.25	8.75	7.78	7.37	5.87
84-907	SPDT	120	9.60	9.08	8.07	7.65	6.09
84-908	SPDT	230/240	9.91	9.38	8.34	7.90	6.30
84-912	SPNO	24	8.03	7.60	6.75	6.40	5.09
84-913	SPNO	120	8.38	7.93	7.05	6.68	5.33
84-914	SPNO	230/240	8.77	8.30	7.38	6.99	5.58
84-916	SPDT	24	8.43	7.97	7.09	6.71	5.35
84-917	SPDT	120	8.77	8.30	7.38	6.99	5.58
84-918	SPDT	230/240	9.17	8.68	7.71	7.31	5.82
84-922	SPNO	24	6.47	6.13	5.44	5.16	4.25
84-923	SPNO	120	6.77	6.41	5.69	5.39	4.44
84-926	SPDT	24	7.23	6.84	6.08	5.76	4.74
84-927	SPDT	120	7.53	7.13	6.33	6.00	4.94
84-928	SPDT	230/240	7.86	7.44	6.61	6.26	5.16

Fig. B. Type 91—Solenoid action type with quick-connect terminals; operates in any position. DPDT contact arrangement. **Power Rating (A):** Enclosed fine silver contacts rated 15 amps, 277 VAC, max., resistive; 12 amps (60 amps inrush), 125 VAC or 6 amps (35 amps inrush), 250 VAC, inductive. **Pilot Rating (B):** Gold alloy crossbar contacts rated 3 amps, 277 VAC, max., resistive; 125 VA, 1/10 hp, 125/250 VAC, inductive. **Number of Operations per Minute:** 6. **Size:** 2¼" × 1⅞" × 2⅝". Quick-contact wiring terminals included in boxed quantity only.

Part No.	Coil V‡	Circuit Rating #1*	Circuit Rating #2†	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
91-901	24	A	A	$14.36	$13.58	$12.07	$11.44	$8.39
91-902	120	A	A	15.36	14.55	12.93	12.25	8.99
91-903	230§	A	A	19.12	8.63	7.67	7.26	5.97
91-905	120	A	B	14.24	13.47	11.96	11.35	8.33
91-906	230§	A	B	8.49	8.03	7.14	6.76	5.56
91-907	24	B	B	12.03	11.38	10.12	9.58	7.03

*Three terminals at the mounting hole side. †Three terminals at the coil terminal side. ‡50/60 Hz. §230/240 volts. #A, power rating; B, pilot rating.

Fig. A. Type 184—Totally enclosed type with mounting bracket; operates in any position. Models 184-902—916 rated 18 amps resistive at 277 VAC; 12 amps (60 amps inrush) inductive at 125 VAC; 8 amps (48 amps inrush) inductive at 250 VAC; 7 amps (42 amps inrush) inductive at 277 VAC. Models 184-922—928 rated 3 amps at 277 VAC; 125 VA at 125 VAC; 277 VA at 277 VAC. Models 184-902—906 have screw terminals; others have ¼" quick-connect terminals. **Size:** 2⅜" × 1 17/64" × 1⅛".

Part No.	Contacts	Coil V (50/60 Hz)	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
184-902	SPNO	24	$5.75	$5.44	$4.84	$4.58	$3.77
184-903	SPNO	120	6.35	6.00	5.34	5.06	4.16
184-906	SPDT	24	7.06	7.54	6.70	6.35	5.22
184-912	SPNO	24	5.82	5.50	4.89	4.64	3.81
184-914	SPNO	208/240	6.48	6.13	5.45	5.16	4.25
184-916	SPDT	24	7.67	7.25	6.45	6.11	5.03
184-922	SPNO	24	5.82	5.50	4.89	4.64	3.81
184-923	SPNO	120	6.58	6.22	5.53	5.24	4.32
184-927	SPDT	120	7.06	7.47	6.64	6.29	5.17
184-928	SPDT	208/240	8.62	8.16	7.25	6.87	5.65

AC GENERAL PURPOSE RELAYS (Cont'd)

Fig. C. Type 192—Solenoid action type with quick-connect terminals; operates in any position. 3PDT contact arrangement. **Power Rating (A):** Fine silver enclosed contacts rated 15 amps, 277 VAC, max., resistive; 12 amps (60 amps inrush), 125 VAC or 6 amps (35 amps inrush) 250 VAC, inductive. Models 192D-912, -913 rated 10 amps at 32 V max. **Pilot Rating (B):** Gold alloy crossbar contacts rated 3 amps, 277 VAC, max., resistive; 125 VA, 1/10 hp, 125/250 VAC, inductive. **Size:** 2⅝" × 2⅜ × 2⅝". Quick-connect wiring terminals included in boxed quantity only.

Part No.	Coil V†	Circuit Rating #1	Circuit Rating #2	Circuit Rating #3	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
192-901	24	A	A	A	$18.46	$17.47	$15.53	$14.71	$11.56
192-902	120	A	A	A	18.84	17.83	15.85	15.01	11.79
192-903	230*	A	A	A	19.74	18.67	16.60	15.72	12.35
192D-912	12	.....	.....	.....	14.47	13.69	12.17	11.53	9.48
192D-913	24	.....	.....	.....	14.47	13.69	12.17	11.53	9.48

*230/240 volts. †50/60 Hz. #A, power rating.

AC POWER RELAYS

Fig. D. Type 129—Totally enclosed; silver alloy contacts rated 18 amps resistive or 18 amps inductive at 250 VAC max., 1 hp at 125 V or 2 hp at 250 V. **Size:** 2⅝" × 1⅞" × 1⅞" overall.

Part No.	Contacts	Coil V‡	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
129-902	SPNO	24	$11.09	$10.48	$9.32	$8.83	$7.25
129-903	SPNO	120	11.04	10.72	9.28	8.79	7.39
129-904	SPNO	208*	11.49	10.88	9.67	9.16	7.53
129-905†	SPDT	6	4.95	4.69	4.17	3.95	3.25
129-906†	SPDT	24	14.22	13.46	11.96	11.19	9.29
129-907†	SPDT	120	14.39	13.61	12.10	11.46	9.41
129-908†	SPDT	208*	14.70	13.91	12.37	11.71	9.80
129-911§	SPNO	24	11.40	10.78	9.58	9.08	7.47
129-912§	SPNO	120	11.56	10.94	9.72	9.21	7.57

*208/230 volts. †All contact terminals must be wired to same polarity. ‡50/60 Hz. §Quick-connect ¼" tab terminals.

Fig. E. Type 129AR Add-A-Relay—Same as Type 129 except has aluminum diecast base and bushing; rated 1 hp at 120 V, 1½ hp at 250 V. High impact phenolic enclosure; 8" color-coded leads. **Size:** 2⅝" × 2 9/16" × 3 1/16". Mounts in ⅛" dia. knock-out. Mounting hardware supplied. Meets standard code requirements. UL white card Listed.

Part No.	Contacts	Coil V‡	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
129AR-901	SPNO	24	$16.78	$15.88	$14.12	$13.37	$10.97
129AR-902	SPNO	120	16.88	15.97	14.20	13.45	11.03
129AR-905†	SPDT	120	20.99	19.86	17.66	16.73	13.72

†All contact terminals must be wired to same polarity. ‡50/60 Hz.

TYPE 91 QUICK-CONNECT SOCKET

Polarized to prevent improper assembly.
Part No. 91-180-1—Net Each, Lots of 1-9 ..... $1.45
10-24 ..... 1.36; 25-49 ..... 1.22
50-99 ..... 1.16; 100-249 ..... .95

DC GENERAL PURPOSE RELAYS

Same as Types 84, 91 and 192 AC General Purpose Relays except for DC operation. See illustrations and specifications under AC General Purpose Relays.

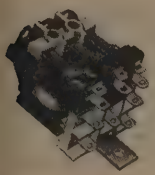
Part No.	Coil VDC	Coil Resis., Ohms†	Contact Rating VDC	Contact Rating Amps	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
84D-902	12	90.0	12	3	SPDT	$7.70	$7.28	$6.47	$6.13	$5.03
91D-912	12	29.0	32	10‡	DPDT	8.46	8.00	7.11	6.74	5.55
91D-913	24	115.0	32	10‡	DPDT	9.02	8.53	7.58	7.18	6.10

*Inductive. †At 25° C. ‡Resistive rating.

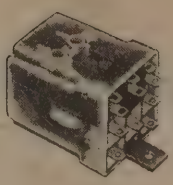
LARGER QUANTITY DISCOUNTS

Additional discounts can be provided for quantities through 999 pieces. Write for complete pricing information.

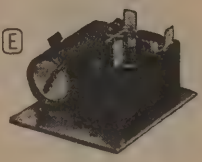
ESSEX STANCOR AC-DC Relays


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AC-DC GENERAL PURPOSE RELAYS

Contact Rating: Button: Fine silver contacts rated 1/6 hp, inductive, 10 amps, resistive at 120 VAC; ½ hp, inductive, 5 amps resistive at 240 VAC. Crossbar: Gold alloy contacts rated 1/10 hp, inductive, 5 amps, resistive at 120 VAC; 1/6 hp, inductive, 3 amps, resistive, at 240 VAC. Both types rated 5 amps resistive at 28 VDC. **Breakdown Voltage:** 1500 V rms, 60 Hz, opposite polarity or to ground; 1500 V rms, 60 Hz, open contacts with same polarity. **Coil Rating:** 1.5 watts DC; 3.0 watts nominal AC (4 watts maximum, 4.5 watts inrush). **Pick-Up:** 75% DC, 85% AC. **Maximum Temperature:** 160° F ambient. **Electrical Life:** 100,000 operations at rated load. **Mechanical Life:** 10 million operations, no load (60 per minute).

OPEN TYPE SOLDER TERMINALS (FIG. A)

Designed for front mounting. Suitable also for single-hole screw or stud rear mounting. All terminals out front. One-piece molded bobbin and terminal board construction. Highly resistant to arc tracking. **Size:** $1^{15}/_{16}$" × $1^{9}/_{16}$" × $1^{5}/_{16}$".

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
93-905	24 VAC	DPDT	$11.35	$10.74	$9.55	$9.04	$7.30
93-908	120 VAC	DPDT	11.42	10.80	9.60	9.10	7.34
93-909	120 VAC	3PDT	13.43	12.71	11.30	10.70	8.64
93-911	208/240 VAC	DPDT	10.54	9.97	8.86	8.40	6.91
93-912	208/240 VAC	3PDT	12.52	11.84	10.53	9.97	8.21

ENCLOSED TYPE PLUG-IN TERMINALS (FIG. B)

With 8-pin octal base for SPDT and DPDT poles; 11-pin base for 3PDT poles. **Size:** 2⅛" × $1^{7}/_{16}$" × $1^{9}/_{16}$".

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
93P-907	120 VAC	SPDT	$10.21	$9.66	$8.59	$8.14	$6.69
93P-908	120 VAC	DPDT	12.13	11.47	10.20	9.66	7.95
93P-909	120 VAC	3PDT	14.27	13.50	12.00	11.37	9.35
93P-911	208/240 VAC	DPDT	12.85	12.16	10.81	10.24	8.42
93P-916	12 VDC	SPDT	6.18	5.85	5.20	4.93	4.06
93P-917	12 VDC	DPDT	12.26	11.60	10.31	9.77	8.03
93P-918	12 VDC	3PDT	14.04	13.29	11.81	11.19	9.20
93P-920	24 VDC	DPDT	11.89	11.25	10.00	9.46	7.80

WITH 5-AMP CROSSBAR CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
93P-935	24 VAC	DPDT	$9.55	$9.04	$8.03	$7.61	$6.26
93P-938	120 VAC	DPDT	10.74	10.16	9.03	8.56	7.04
93P-950	24 VDC	DPDT	10.54	9.97	8.87	8.40	7.79

ENCLOSED TYPE QUICK-CONNECT TERMINALS (FIG. C)

Enclosed relay designed for front mounting, or polarized mounting in Type 93-185-1 socket (listed on previous page). Quick-connect .20" × .187" terminals. Hi-impact case. **Size:** 2⅛" × $1^{7}/_{16}$" × $1^{9}/_{16}$".

WITH 10-AMP BUTTON CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
93Q-904	24 VAC	SPDT	$10.28	$9.72	$8.64	$8.19	$6.61
93Q-905	24 VAC	DPDT	12.19	11.54	10.25	9.71	7.84
93Q-906	24 VAC	3PDT	14.27	13.50	12.00	11.37	9.19
93Q-907	120 VAC	SPDT	10.36	9.80	8.71	8.25	6.65
93Q-908	120 VAC	DPDT	12.26	11.60	10.31	9.77	7.89
93Q-909	120 VAC	3PDT	14.36	13.58	12.07	11.44	9.24
93Q-912	208/240 VAC	3PDT	13.65	12.91	11.48	10.87	8.94
93Q-920	24 VDC	DPDT	10.84	10.25	9.12	8.64	7.11
93Q-921	24 VDC	3PDT	12.59	11.91	10.59	10.03	8.25

WITH 5-AMP CROSSBAR CONTACTS

Part No.	Coil Voltages (50/60 Hz)	Contacts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
93Q-938	120 VAC	DPDT	$9.68	$9.16	$8.14	$7.71	$6.34
93Q-939	120 VAC	3PDT	9.68	9.16	8.14	7.71	6.34

TYPE 93 RELAY RECEPTACLE (FIG. D)

Receptacle for Type 93 solder terminal, printed circuit, 8 and 11 pin plug-in and quick connect relays.
Part No. 93-185-1—Net Each, Lots of 1-9.....**$0.53**
10-24.....**$0.50**; 25-49.....**.44**
50-99.....**.42**; 100-249.....**.35**

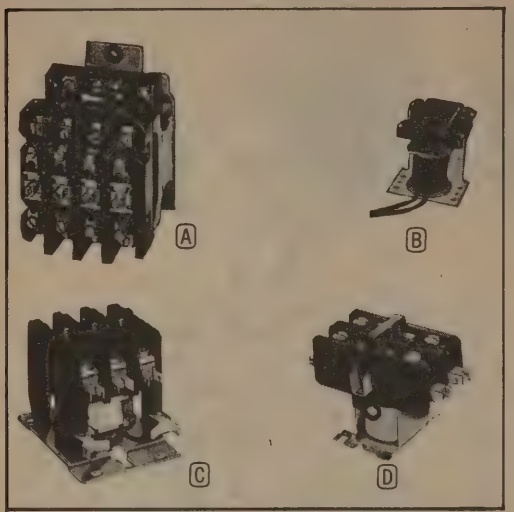
AC TIME DELAY RELAYS (FIG. E)

Available in thermal, rectifier/capacitor and adjustable types, delay after energization or de-energization. Fixed timing cycle with non-instantaneous reset. Operate in any position. Quick-connect wiring terminals included for all types.

Type 84T Rectifier/Capacitor Time Delay Relay—Totally enclosed. SPDT contacts rated 3 amps, 125 VAC; 1.5 amps, 250 VAC, inductive. Available in two actions: Delay after coil de-energized (Part No. with D) and delay after coil energized (Part No. with E). **Delay Time:** 2 sec, ±25%. **Reset Time:** Approximately 4 seconds. Life and breakdown voltage same as Type 59. **Size:** 2⅝" × 2¼" × 1½" overall. Two holes for 6-32NC-2 on 2.188" ctr.

Part No.	Coil Volts	Net Each, Lots of: Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
84TE-902	115/120	$15.85	$15.00	$13.33	$12.63	$10.39
84TE-903	230/240	16.05	15.19	13.50	12.79	10.52
84TD-902	115/120	20.68	19.56	17.39	16.47	11.39

ESSEX STANCOR AC Power Contactors



AC INDUSTRIAL CONTACTORS

Fig. A. Unique design permits common base, coil and magnet for contactor ratings of 10 amps (type C10), 15 amps (type C15 and CR15), 30 amps (type C30) and 50 amps (type C50R). Double break contact action. Epoxy sealed molded magnet coil housing. Replaceable contacts and coil. Laminated corrosion resistant E-type magnet and self-aligning armature. Hi-dielectric arc resistant molded contact block and carrier. Magnet coil 50/60 Hz. Resilient mounting. All 10 and 15 A contacts can be converted to NC with screwdriver. Pressure type power terminals; #8 solid wire used on C10, C15 and CR15; #8 solid wire on C30; #6 stranded wire on type C50R. Type CR15 is suitable for motor reversing and transformer tap changing industrial applications; consist of two type C contactors mounted side-by-side on common steel base; hardened steel mechanical interlock prevents simultaneous closing of both contactors; no cross phase wiring. **Size:** 3⅝" × 2¾" × 3⅜" overall; dual contactors (type CR15), 3⅜" × 5 9/16" × 3⅜" overall.

Series	AC Contact Rating, HP						Contact, Amps Resistive per Pole
	110 VAC		220 VAC		600 VAC		
	1-Ph.	3-Ph.	1-Ph.	3-Ph	1-Ph.	3-Ph.	
C10	½	¾	¾	1	1	1	10 at 600 V
C15	1	1½	1½	2	1½	2	15 at 600 V
C30	2	3	3	7½	5	10	30 at 600 V
C50R	.....	.....	.....	.....	.....	.....	50 at 480 V
CR15	1	1½	1½	2	.....	.....	15 at 600 V

COIL VOLTAGES

Coil V*	4PNO Part No. C10-	4PNO Part No. C15-	4PNO Part No. C30-	4PNO Part No. C50R-	4PNO Part No. CR15-
110	902	902	902	902	901
220	903	903	903	903	902

*50/60 Hz.

PRICES FOR 110V COIL; 220V COIL SLIGHTLY HIGHER

Net Each, Lots of	Type C10	Type C15	Type C30	Type C50R	Type CR15
1-9	$58.04	$66.49	$78.25	$94.44	$150.55
10-24	54.91	62.91	74.04	89.35	142.44
25-49	48.81	55.92	65.81	79.42	126.61
50-99	46.24	52.98	62.35	75.24	119.95
100-249	38.03	43.58	51.28	61.89	98.66

AC POWER CONTACTORS

Fig. B. Type 75—DPNO; screw power terminals, #8 solid wire max. Quick connect or 13" lead coil termination. Protective contact cover. Hardware included. **Size:** 2¼" × 2¼" × 2¼" overall.

Fig. C. Type 154—3PNO (40 amps type also with DPNO). 20 and 25 amps, screw connectors line and load side for #14 through #8 wire; ¼" double quick connect auxiliary and coil terminals. 30 and 40 amps, pressure connectors on line side for #14 through #4 wire; screw connectors on load side (pressure connectors for 40 amps); ¼" double quick connect auxiliary and coil terminals. Non-positional type 154 power contactors come with interchangeable mounting; low coil wattage and non-corroding structure. Type 154 has low temperature rise; riveted terminal assemblies. Hardware included in boxed quantity only. **Size:** 3⅝" × 3⅛" (3¼" for 40 amps) × 2¾" overall.

Fig. D. Type 143—DPNO; screw power terminals, #10 solid wire max. Auxiliary quick-connect terminals; straight-thru wiring; double break contacts. Hardware included in boxed quantity only. **Size:** 3¼" × 2⅜" × 2½".

Contact amp ratings listed are continuous unless noted otherwise.

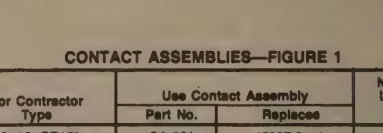
Type	Contact Rating (AC), Inductive
75	1 hp/pole, 115/230 V; 2 pole, 2 hp/230 V or 18 amps cont. (90 amps inrush); 25 amps, 240 V/pole resistive.
154	Type 154-901 to 154-903, 20 amps (80 amps inrush), 600 V; 120 amps inrush, 277 V; 100 amps inrush, 480 V; 30 amps, 600 VAC resistive. Type 154-904 to 154-908, 25 amps (100 amps inrush), 600 V; 150 amps inrush, 277 V; 125 amps inrush, 480 V; 35 amps, 600 VAC resistive. Type 154-907 to 154-909, 30 amps (120 amps inrush), 600 V; 180 amps inrush, 277 V; 150 amps inrush, 480 V; 40 amps, 600 VAC resistive. Type 154-910 to 154-915, 40 amps (160 amps inrush), 600 V; 240 amps, inrush, 277 V; 200 amps inrush, 480 V; 50 amps, 600 VAC resistive.
143	Type 143-901 to 143-903, 20 amps (100 amps inrush), 277 V; 25 amps, 600 VAC resistive; per pole. Type 143-914 to 143-916, 25 amps (150 amps inrush), 277 V; 35 amps, 600 VAC resistive; per pole w/cover. Type 143-906 and 143-907, 30 amps (150 amps inrush), 277 V; 35 amps, 600 VAC resistive; per pole w/cover.

PRICES FOR 110V COIL; 220V COIL SLIGHTLY HIGHER

Part No.	Contacts	Coil Volts	Net Each, Lots of Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
75-901	DPNO	24	$12.56	$11.88	$10.56	$10.00	$7.90
75-902	DPNO	115/120	13.60	12.86	11.43	10.83	8.55
75-903	DPNO	230/240	13.27	12.55	11.16	10.57	8.34
75-904	DPNO	24*	12.46	11.80	10.49	9.93	7.84
75-905	DPNO	115/120*	12.72	12.03	10.69	10.13	8.00
75-906	DPNO	230/240*	13.51	12.78	11.36	10.76	8.49
154-901	3PNO	24	24.78	23.44	20.84	19.74	16.24
154-902	3PNO	120	25.73	24.35	21.64	20.50	16.86
154-903	3PNO	208/240	25.83	24.44	21.73	20.58	16.93
154-904	3PNO	24	26.76	25.32	22.50	21.32	17.54
154-905	3PNO	120	27.85	26.35	23.42	22.19	18.25
154-906	3PNO	208/240	27.32	25.85	22.98	21.77	17.90
154-907	3PNO	24	37.86	35.82	31.84	30.16	24.81
154-908	3PNO	120	38.32	36.25	32.23	30.53	25.11
154-909	3PNO	208/240	38.45	36.38	32.34	30.64	25.20
154-910	3PNO	24	40.27	38.10	33.87	32.08	26.39
154-911	3PNO	120	40.80	38.60	34.31	32.50	26.73
154-912	3PNO	208/240	40.80	38.60	34.31	32.50	26.73
154-913	DPNO	24	30.23	28.60	25.42	24.08	19.81
154-914	DPNO	120	30.69	29.04	25.81	24.45	20.11
154-915	DPNO	208/240	30.76	29.10	25.87	24.50	20.16
143-901	2PNO	24	19.46	18.41	16.37	15.50	12.52
143-902	2PNO	120	20.33	19.24	17.10	16.20	13.08
143-903	2PNO	208/240	20.48	19.38	17.23	16.32	13.19
143-906	DPNO	24	22.40	21.19	18.84	17.85	14.41
143-907	DPNO	120	23.09	21.85	19.42	18.40	14.86
143-914	2PNO	24	22.40	21.19	18.84	17.85	14.41
143-915	2PNO	120	23.09	21.85	19.42	18.40	14.86
143-916	2PNO	208/240	23.24	21.99	19.55	18.52	14.95

*Quick-connect tab terminals; 75-901 to 75-908, 18" leads.

TYPE C REPLACEMENT PARTS



CONTACT ASSEMBLIES—FIGURE 1

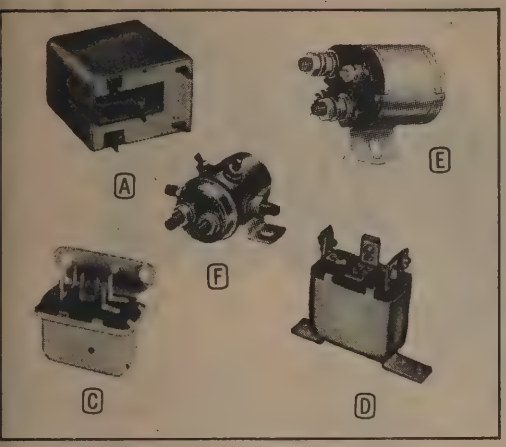
For Contractor Type	Use Contact Assembly Part No.	Use Contact Assembly Replaces	Net Ea., Lots of 1-24
C10, 15, CR15*	CA-901	45997-3, -4	$31.25
C50R	CA-903	45997-22	57.68
109153†	CA-904	45997-16	42.38
109400†	CA-904	45997-20	42.38
C30, CR30*	CA-904	45997-5	42.38

*Reversing type, two sets required. †Not standard items.

MAGNETIC COILS—FIGURE 2

Standard and special magnetic coils are not interchangeable.

Volts 50/60 Hz	Standard Part No.	Standard Replaces	Standard Net Ea., Lots of 1-9	Special Part No.	Special Replaces	Special Net Ea., Lots of 1-9
24	MC-901	45225-5	$5.84	MC-911	45225-35	$4.62
110	MC-902	45225-1	5.48	MC-912	45225-31	4.92
220	MC-903	45225-2	5.65	MC-913	45225-32	5.48
440	MC-904	45225-3	5.62	MC-914	45225-33	4.95
550	MC-905	45225-4	3.14	MC-915	45225-34	2.81



MINIATURE DC SENSITIVE RELAYS

Fig. A. Type MS64—Molded combination coil bobbin and terminal block for minimum moisture absorption. Protective covers. PC and bracket mount types. Contacts gold alloy for 3 amp rating, silver alloy for 5 amp rating or silver cadmium oxide for 10 amp rating at 28 VDC or 115 VAC. UL and CSA. **Size:** 1 1/32" × ¾" × 1 1/32". **Coil Power:** 50 milliwatts for 3 amp rating; 60 milliwatts for others.

Part No.	Mtg.	Max. Pickup mA	Coil Ohms	Net Each, Lots of Boxed 1-9	Boxed 10-24	Boxed 25-49	Bulk 50-99
3 AMPERE GOLD CONTACTS							
MS64-900	PC	13.4	280	$4.29	$4.06	$3.61	$3.42
MS64-901	PC	11.3	400	3.55	3.36	2.99	2.83
MS64-902	PC	5.6	1600	3.63	3.44	3.06	2.89
MS64-903	PC	2.8	6500	4.34	4.10	3.65	3.46
MS64-904	PC	2.3	10000	2.89	2.73	2.43	2.30
MS64-910	Bkt.*	13.4	280	4.34	4.11	3.65	3.46
MS64-911	Bkt.*	11.3	400	4.34	4.11	3.65	3.46
MS64-912	Bkt.*	5.6	1600	4.36	4.14	3.68	3.49
MS64-913	Bkt.*	2.8	6500	4.43	4.19	3.72	3.53
MS64-914	Bkt.*	2.3	10000	4.10	3.36	3.44	3.26
MS64-915	Bkt.*	13.4	280	3.45	3.27	2.90	2.75
MS64-916	Bkt.#	11.3	400	3.44	3.25	2.89	2.74
MS64-917	Bkt.#	5.6	1600	4.33	4.09	3.64	3.45
MS64-918	Bkt.#	2.8	6500	5.00	4.73	4.21	3.99
MS64-919	Bkt.#	2.3	10000	4.10	3.36	3.44	3.26
5 AMPERE SILVER ALLOY CONTACTS							
MS64-936	PC	17.0	220	$3.67	$3.47	$3.09	$2.93
MS64-930	PC	12.9	350	3.87	3.66	3.25	3.08
MS64-931	PC	6.9	1300	3.90	3.69	3.28	3.11
MS64-932	PC	3.6	5000	4.10	3.88	3.45	3.27
MS64-937	Bkt.*	17.0	220	3.72	3.52	3.13	2.96
MS64-933	Bkt.*	12.9	350	3.80	3.60	3.20	3.03
MS64-934	Bkt.*	6.9	1300	4.61	4.36	3.88	3.68
MS64-935	3kt.*	3.6	5000	3.87	3.66	3.25	3.08
MS64-938	Bkt.#	17.0	220	3.69	3.49	3.10	2.94
MS64-939	Bkt.#	12.9	350	3.72	3.52	3.13	2.96
MS64-940	Bkt.#	6.9	1300	4.13	3.91	3.48	3.29
MS64-941	Bkt.#	3.6	5000	3.80	3.60	3.20	3.03
10 AMPERE SILVER CADMIUM OXIDE CONTACTS							
MS64-950	PC	26.8	140	$4.15	$3.93	$3.49	$3.31
MS64-951	PC	22.5	200	4.84	4.58	4.07	3.86
MS64-952	PC	11.1	810	4.89	4.63	4.12	3.90
MS64-953	PC	5.6	3240	5.01	4.74	4.21	3.99
MS64-954	Bkt.*	26.8	140	4.89	4.63	4.12	3.90
MS64-955	Bkt.*	22.5	200	3.92	3.71	3.30	3.12
MS64-956	Bkt.*	11.1	810	3.95	3.74	3.32	3.15
MS64-957	Bkt.*	5.6	3240	4.00	3.79	3.37	3.19
MS64-958	Bkt.#	26.8	140	4.81	4.55	4.05	3.83
MS64-959	Bkt.#	22.5	200	3.95	3.71	3.30	3.12
MS64-960	Bkt.#	11.1	810	4.91	4.64	4.13	3.91
MS64-961	Bkt.#	5.6	3240	3.97	3.75	3.34	3.16

*Bracket, end mounting. #Bracket, side mounting.

DC POWER CONTACTORS

Fig. F. Type 70—Solenoid actuated DC power contactors feature drawn steel dust-proof enclosure, copper stud power and coil terminals, double break rotating disc movable contact, isolated coil terminals. **Magnet Coil Rating:** 9 watts. **Breakdown Voltage:** 500 V rms, 60 Hz. **Terminals:** SPDT has six; 70-913 to 70-920, three; 70-901 to 70-908, four. **Size:** 2⅛" × 3⅛" × 2¼" (SPDT), 3⅝" × 3 9/16" × 2¼"). Mtg. holes on 2.109" ctrs. Hardware included.

Coil V	Contact Rating* NO	Contact Rating* NC	Copper Contacts SPNO Pt. No.	Copper Contacts SPNO Pt. No.●	Copper Contacts SPNO Pt. No.▲	Silver Contacts SPNO Pt. No.	Silver Contacts SPDT# Pt. No.	Silver Contacts SPDT# Pt. No.■
6	80 A†	60 A§	70-901	70-913	70-917	70-905	70-909	.....
12	80 A‡	60 A	70-902	70-914	70-918	70-906	70-910	70-922
24	50 A	30 A	70-903	70-915	70-919	70-907	70-911	70-923
36	50 A	30 A	70-904	.....	.....	70-908	70-912	.....

*Continuous; inductive load: 36 VDC max., copper or silver contacts. Inruah rating: †300 A; ‡150 A; §100 A; others same as continuous ratings listed. #Isolated coil. ●Coil grounded to case. ▲Coil common to load. ■NO copper and NC silver.

PRICES

Part No.	Net Each, Lots of Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
70-901	$10.24	$9.69	$8.81	$8.16	$6.71
70-902	10.01	9.47	8.42	7.97	6.56
70-903	10.24	9.69	8.81	8.16	6.71
70-904	9.64	9.13	8.11	7.68	6.32
70-905	31.51	29.81	26.50	25.11	20.65
70-906	30.06	28.44	25.28	23.95	19.70
70-907	30.29	28.66	25.47	24.13	19.84
70-908	29.73	28.13	25.00	23.68	19.48
70-909	51.82	49.03	43.58	41.29	33.96
70-910	51.30	48.53	43.14	40.87	33.61
70-911	51.40	48.63	43.22	40.94	33.68
70-912	51.78	48.97	43.53	41.24	33.92
70-913	10.77	10.19	9.06	8.59	7.05
70-914	8.95	8.47	7.53	7.13	5.87
70-915	9.25	8.75	7.78	7.37	6.06
70-917	9.68	9.16	8.14	7.71	6.34
70-918	8.98	8.50	7.56	7.16	5.88
70-919	9.31	8.81	7.83	7.42	6.10
70-922	30.02	28.41	25.25	23.92	19.68
70-923	29.93	28.31	25.17	23.84	19.61

Fig. C. Type 150—Enclosed in metal case with side bracket; isolated coil. Quick-connect terminals. Hardware included. Contacts rated 7.5 to 25 amps at coil voltage shown. **Shown:** 2¼" × 1½" × 2".

Part No.	Contacts Type	Contacts A	Coil V	Coil Ohms	Net Each, Lots of* Boxed 1-9	Boxed 10-24	Boxed 25-49	Bulk 50-99
150-901	SPNO	25	6	11	$6.16	$5.83	$5.18	$4.91
150-902	SPNO	25	12	43	6.21	5.88	5.22	4.95
150-903	SPNO	12	24	190	6.34	6.00	5.33	5.05
150-904	SPDT	15	6	11	8.37	7.92	7.04	6.67
150-905	SPDT	15	12	43	8.40	7.95	7.07	6.70
150-906	SPDT	7.5	24	190	8.19	7.75	6.89	6.53

Fig. D. Type 60—SPNO DC power contactor in metal enclosure. **Magnetic Coil Rating:** 2 watts. **Breakdown Voltage:** 1000 V rms, 60 Hz. **Electrical Life:** 100,000 operations, 4 operations/min., rated load. **Mechanical Life:** 250,000 operations at 4 operations/min., no load. **Size:** 2⅛" × 1¼" × 2⅝" overall. Two tapped holes for #8-32-NC-2 on 1.813" centers; clearance for #8 screw on 2.563 centers. Screw terminals. Fine silver contacts.

Part No.	Coil VDC	Coil Resis. Ohms*	Contact Rating Inductive VDC	Contact Rating Inductive AMPS	Net Each, Lots of* Boxed 1-9	Boxed 10-24	Boxed 25-49	Bulk 50-99
60-901	6	11	6	15	$9.74	$9.22	$8.19	$7.76
60-902	12	35	12	15	9.71	9.19	8.17	7.74
60-903	24	160	24	7.5	10.04	9.50	8.44	8.00

*At 25° C.

Fig. E. Type 124—High current contactors for use where ruggedness and high current capacity are required for DC mobile equipment. Dust and splash proof cover. Contacts rated 100 amps (400 amps inrush) at 6 to 36 VDC. **Operating Temperature Range:** −40° C to +85° C.

Part No.	Coil Volts	Coil Ohms	Net Each, Lots of Boxed 1-9	Boxed 10-24	Boxed 25-49	Boxed 50-99	Bulk 100-249
4 TERMINALS ISOLATED COIL							
124-901	6	3.3	$17.34	$16.41	$14.58	$13.82	$11.36
124-902	12	13.2	17.37	16.44	14.61	13.84	11.39
124-903	24	53	17.64	16.69	14.83	14.05	11.56
124-904	36	120	17.54	16.59	14.75	13.97	11.49
3 TERMINALS GROUNDED COIL							
124-905	6	3.3	$17.27	$16.34	$14.53	$13.76	$11.32
124-906	12	13.2	17.44	16.50	14.67	13.89	11.43
124-907	24	53	17.27	16.34	14.53	13.76	11.32
124-908	36	120	17.18	16.25	14.44	13.66	11.25
6 TERMINALS ISOLATED COIL							
124-909	6	3.3	$27.12	$25.66	$22.81	$21.61	$17.77
124-910	12	13.2	27.28	25.81	22.94	21.74	17.86
124-911	24	53	27.51	26.03	23.14	21.92	18.03
124-912	36	120	27.45	25.97	23.08	21.87	17.99

*LARGER QUANTITIES AVAILABLE ON REQUEST.

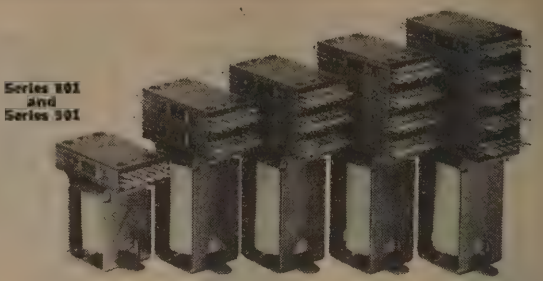
Multipole Relays

SERIES 801 AND 901 T-BAR RELAYS

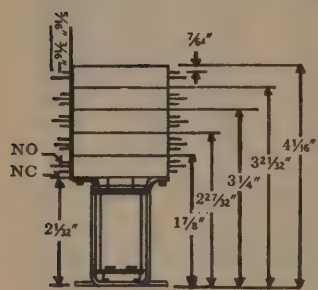
Switch from 4 to 60 circuits with only one T-Bar relay. Available in configurations of 4, 8, 12, 24, 36, 48 and 52 poles with "A" or "C" contacts and 60 poles with "A" form contacts.

Series 801:
Designed for general purpose applications.

Series 901:
Recommended for low level applications.



12PDT 24PDT 36PDT 48DPT 60PDT



RELAY SPECIFICATIONS

Contacts: Series 800, general purpose button gold plated; series 900, low level bifurcated gold plated.

Contact Rating: Series 800, 5 amps maximum resistive to 150 watts; series 900, 1 amp maximum resistive to 50 watts.

Life Expectancy at 20 CPM: Series 800, 30 million mechanical cycles (latching limited to 1 million); 20 million at 100 mW; 100,000 cycles at 5 amps and 28 VDC. Series 900, 30 million mechanical cycles; 20 million cycles at 100 mW; 100,000 at 1 amp and 28 VDC.

Contact Resistance: 20 milliohms typical.

Ambient Temperatures: −55° to +85° C.

Terminals: Mate with T-Bar connectors.

Dielectric Strength: 1000 volts rms at 60 Hz (higher available).

Insulation Resistance: 5000 megohms minimum (higher available).

Operate Time Typical (at nominal voltage and 25° C): 15 msec max. for 4, 8 or 12 poles; 25 msec max. for 24 poles; 30 msec max. for 36 poles; 35 msec max. for 48 poles; 45 msec max. for 52 or 60 poles; 15 msec latch and unlatch time for latching types (all sizes).

Release Time Typical (at nominal voltage and 25° C): 5 msec.

POWER AT 25° C

Poles	Form	Watts
4, 8 or 12	A, B or C	3
24	A, B or C	3.4
36	A, B or C	5.2
48	A	5.2
48	B or C	6.5
52	A, B or C	6.5
60	A	6.5
4, 8 or 12	D	3.4
24	D	5.2
36	D	6.5

NOTE: On all latching, standard pulse coil power is 6 watts, except 10 watts on bifilar coils.

Contact Bounce: 2 msec for NO contacts; 6 msec for NC contacts; 4 msec for latching units (both ways).

HOW TO SPECIFY

1. Specify series.
2. Specify number of poles and contact form.
3. Specify coil voltage.

Example: **901-12C-24**

Series	Application	No. of Poles	Contact Forms*	Type	Coil Voltage
801 901	General purpose Low level	4 to 52 and 60 "A" form only	"A" or "C"	Non-Latching	6, 12, 24, 28, 48, 110 VDC; 115 VAC
807 907	General purpose Low level	4 to 52	"C"	Latching	6, 12, 24, 28, 48, 110 VDC

*Form "A", normally open contacts; Form "C", double throw break-before-make.

SERIES 800 AND 900 CONTACTS

Series 800: Series 800 contact is a highly reliable gold-plated button contact. With its high contact pressure and positive wiping action, it is used in control type applications and in general purpose switching such as relays, valves, lamps, etc. Contact rating, up to 5 amps max.

Series 900: Series 900 DATA-RITE™ contact has the reliability of a bifurcated contact with the added feature of two degrees of wiping action. The unique Edge-To-Dome contact guarantees a clean surface, which is critical for low level signals. Series 900 is typically used in computer I/O signals; voice and data-grade communications; thermocouple and strain gauge outputs; all low level switching, whenever reliability is premium, or whenever sight variations in contact resistance can not be tolerated. Contact rating, microvolts, up to 1 amp max.

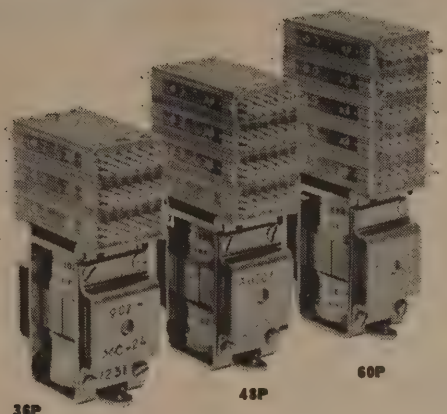
SERIES 801 AND 901 PRICING

T-Bar Number*	Coil Voltage	Net Each, Lots of 1-24	25-49	50-74	75-99	100-249
801-4C	24, 28, 110 VDC	$13.90	$13.20	$12.55	$11.90	$ 9.95
801-4C	6, 12, 48 VDC	15.10	14.35	13.65	12.95	10.80
801-4C	115 VAC	20.75	19.70	18.75	17.80	14.85
801-8C	24, 28, 110 VDC	19.20	18.25	17.35	16.45	13.75
801-8C	6, 12, 48 VDC	21.00	19.95	18.95	18.00	15.00
801-8C	115 VAC	24.60	23.35	22.20	21.10	17.60
801-12A	24, 28, 110 VDC	20.65	19.60	18.65	17.70	14.75
801-12A	6, 12, 48 VDC	22.45	21.35	20.25	18.25	16.05
801-12A	115 VAC	25.80	24.50	23.30	22.10	18.45
801-12C	24, 28, 110 VDC	21.95	20.85	19.80	18.80	15.70
801-12C	6, 12, 48 VDC	24.00	22.80	21.65	20.55	17.15
801-12C	115 VAC	27.10	25.75	24.45	23.20	19.40
801-24A	24, 28, 110 VDC	35.15	33.40	31.75	30.10	25.15
801-24A	6, 12, 48 VDC	38.30	36.40	34.60	32.80	27.40
801-24A	115 VAC	40.80	38.75	36.85	34.95	29.15
801-24C	24, 28, 110 VDC	39.85	37.85	36.85	34.15	28.50
801-24C	6, 12, 48 VDC	43.45	41.30	39.25	37.25	31.05
801-24C	115 VAC	45.50	43.25	41.10	39.00	32.55
801-36A	24, 28, 110 VDC	47.15	44.80	42.60	40.40	33.70
801-36A	6, 12, 48 VDC	51.35	48.80	46.35	44.00	36.70
801-36A	115 VAC	57.00	54.15	51.45	48.85	40.75
801-36C	24, 28, 110 VDC	54.10	51.40	48.85	46.35	38.70
801-36C	6, 12, 48 VDC	59.05	56.10	53.30	50.60	42.20
801-36C	115 VAC	59.75	56.75	53.95	51.20	42.70
801-48A	6, 12, 24, 28, 48, 110 VDC	59.15	56.20	53.40	50.70	42.30
801-48A	115 VAC	64.90	61.65	58.60	55.60	46.40
801-48C	6, 12, 24, 28, 48, 110 VDC	68.40	65.00	61.75	58.60	48.90
801-48C	115 VAC	73.70	70.00	66.55	63.15	52.70
801-52A	6, 12, 24, 28, 48, 110 VDC	67.10	63.75	60.60	57.50	48.00
801-52A	115 VAC	72.25	68.65	65.25	61.90	51.65
801-52C	6, 12, 24, 28, 48, 110 VDC	81.85	77.75	73.90	70.15	58.50
801-52C	115 VAC	87.00	82.65	78.55	74.55	62.20
801-60A	6, 12, 24, 28, 48, 110 VDC	74.90	71.15	67.65	64.20	53.55
801-60A	115 VAC	80.10	76.10	72.35	68.65	57.25

*For series 901, change the first digit in T-Bar No. from 8 to 9. (e.g., 901-4C).

MULTIPOLE LATCHING RELAYS, CONNECTORS AND TOOLS

MULTIPOLE LATCHING RELAYS

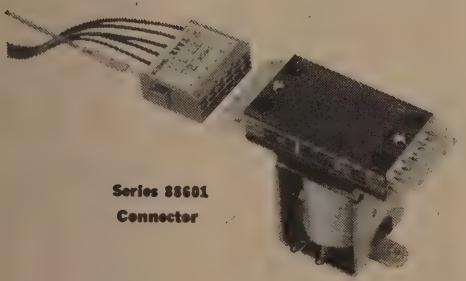


T-Bar latching relays have the ability to maintain circuit integrity during power failure, in addition to other performance and economy features. Bistable in operation, with true snap acting performance, latching relays are ideal for applications where power drain by large relay switching arrays would strain power supplies or generate undesirable heat. Latching available on all models. See previous page for complete specifications of relays.

T-Bar Number*	Coil Voltage	Net Each, Lots of 1-24	25-49	50-74	75-99	100-249
807-12C	6, 12, 24 28, 48, 110 VDC	$43.90	$41.70	$39.65	$37.60	$33.90
907-12C		43.90	41.70	39.65	37.60	33.90
807-24C		62.40	59.30	56.35	53.50	48.15
907-24C		62.40	59.30	56.35	53.50	48.15
807-36C		77.15	73.30	69.65	66.10	59.55
907-36C		77.15	73.30	69.65	66.10	59.55
807-48C		84.35	80.15	76.15	72.30	65.10
907-48C		84.35	80.15	76.15	72.30	65.10
807-52C		97.00	92.15	87.60	83.15	74.90
907-52C		97.00	92.15	87.60	83.15	74.90

*Add suffix for coil voltage desired, e.g., 807-12C-48.

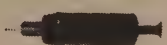
T-BAR CONNECTORS AND TOOLS



Series 88601 Connector



Model 8601-51 Crimping Tool



Model 8601-61 Extraction Tool



Model 8601-71 Connector Tong

SPECIFICATIONS

Current Carrying Capacity: 5 amps.

Contact Resistance: 5 milliohms max.

Wire Accommodated: AWG #18 to AWG #26.

Dielectric Strength: 1000 volts rms.

Insulation Resistance: 100,000 megohms min.

Ambient Temperature: −55° C to +85° C.

Weight: 0.3 oz.

T-Bar series 88601 connector has been specifically designed for use with T-Bar switches and relays. The connector contacts are crimp type which are snapped into a plastic insulator block. After installation, connectors are held in place against shock and vibration by use of a retaining clip.

Series 88601 T-Bar Connector—Each connector handles 6 poles, single or double throw (18 terminals); consists of 1 connector block, 20 crimp contacts, 2 labels and 1 retaining cup. Net Each, Lots of 1-99 ..... **$1.70**; Lots of 100-up **$1.45**

Model 8601-51 Crimping Tool—For use with above connectors. Crimps wire and insulation to snap-in terminals. Net Each **$59.75**

Model 8601-61 Extraction Tool—Removes snap-in terminals from connector block. Net Each **$12.00**

Model 8601-71 Connector Tong—For pushing on or withdrawing connectors from wafer terminals. Net Each **$1.50**



NEON PILOT LIGHT ASSEMBLIES

BNE Series—Compact lens assembly protrudes slightly above panel; mounts with single ⅜"-32 nut. Operates from 75 VDC without resistor, 115 VAC with resistor (150K for standard intensity, 33K for high intensity); resistor not supplied unless otherwise indicated. Temperature range, −10° C to +70° C. **BNF Series**—Similar to BNE, but with long lens assembly extending further beyond panel for brighter illumination. **BND Series**—Similar to above series, but with square lens assembly; mounts in ¾" hole. Specify red, amber, clear or white for all models.

Alco No.	Intensity	Color	Net Each, Lots of 1-24	25-99	100-499	500-999
BND-2	Std.	All colors	$1.30	$1.11	$0.95	$0.81
BND-2R*	Std.	Red, Amber Clear, White	1.50	1.28	1.10	.93
BND-3	High	Red, Clear Amber, White	1.35	1.15	.99	.84
BND-3R*	High	Red, Amber Clear, White	1.55	1.32	1.13	.96
BNE-2	Std.	Red Clear, Amber, White	1.35	1.15	.99	.84
BNE-3	High	Red Clear, Amber, White	1.40	1.19	1.02	.87
BNE-4R*	High	All colors	1.55	1.32	1.13	.96
BNF-2	Std.	Red, Clear, Amber White	1.35	1.15	.99	.84
BNF-3	High	Red Clear, Amber, White	1.40	1.19	1.02	.87
BNF-4R*	High	All colors	1.55	1.32	1.13	.96

*Suffix R indicates with internal resistor.

NE SERIES NEON LAMPS

NE-211 replaces readout tubes or over-range indicator in digital displays (numerical "1"); may also be used where longer light source is needed. Bare leads; 90 VDC breakdown; 1.3 mA design current; 8,000–20,000 hr. life. **Type A1C** is compact high brightness lamp for end viewing indicator applications. Bare leads; 100 VDC breakdown; 0.8 mA design current; 25,000 hrs. life.

Alco No.	Description	Net Each, Lots of 10 Min.*	20-99	100-499	500-999
A1C	Compact glow, bare leads	$0.23	$0.21	$0.18	$0.17
NE-211	11 mm glow, bare leads	.49	.44	.39	.36

SNAP-FIT 110-125 V NEON LIGHT INDICATORS

Unit snapfits into ⅝" mounting hole. Has built-in 30K resistor. Leads, approx. 6" long with heavy insulation, withstand temperatures up to 105° C. Models BIM-1, BIM-1B lenses extend only .075" from panel front. Models BIM-4C, BIM-4E have elongated lens for better side illumination, extend .338" from panel front. Acrylic lens, nylon body. Specify color: Red, amber, clear. UL Listed.

Alco No.	Description	Net Each, Lots of 1-24	25-99	100-499	500-999
BIM-1	Long Body, white trim	$1.05	$0.89	$0.77	$0.65
BIM-1B	Long Body, black trim	1.05	.89	.77	.65
BIM-4C	Long Body, chrome trim	1.05	.89	.77	.65
BIM-4E	Short Body, chrome trim	1.05	.89	.77	.65

BRITE GLO® INCANDESCENT LAMPS

Ultraminiaturized series mounts in a ⅜" hole. Available with 5 V at 60 mA rated lamps having 100,000 hours life. Model ME-680 can be used for PC boards. Specify red, white, green, blue or yellow (amber for ME Series). With #683 T-1 lamp and mounting rings.

Alco No.	Color	Net Each, Lots of 1-24	25-99	100-499	500-999
MC-680†	Amber, Green Blue, Red, White	$1.70	$1.36	$1.22	$1.09
MC-680LT*	Amber, Red, White Blue, Green	1.85	1.48	1.33	1.18
ME-680†	Blue, Green Red, White, Yellow	1.50	1.20	1.08	.96
ME-680LT*	Blue, Red, White, Yellow Green	1.65	1.32	1.19	1.06

†With pin contacts. *With 6" solder tin dipped, high-temp leads.

INCANDESCENT LAMPS

Designed for applications where space is at a premium and long life is required. Current ratings are ±10%.

Alco No.	Size	Current, Amps	MSCP	Net Each, Lots of 10 Min.*	20-90#	100-490#	500-990*
	2.7 VOLTS						
1738	T-1¾†	.06	.032	$0.31	$0.28	$0.25	$0.23
	3 VOLTS						
7207	T-1†	.06	.032	$0.49	$0.44	$0.39	$0.36
	5 VOLTS						
8602	T-1†	.015	.032	$0.49	$0.44	$0.39	$0.36
7210 (RM-3)	T-1†	.03	.03	.42	.38	.34	.31
680AS15	T-1†	.06	.032*	.59	.53	.47	.44
680	T-1†	.06	.032	.39	.35	.31	.29
683AS15	T-1†	.06	.053*	.61	.55	.49	.45
683	T-1†	.06	.053	.42	.38	.34	.31
713AS15	T-1†	.075	.088*	.61	.55	.49	.45
713	T-1†	.075	.088	.42	.38	.34	.31
715AS15	T-1†	.115	.147	.61	.55	.49	.45
715	T-1†	.115	.147	.42	.38	.34	.31
7234	T-1‡	.03	.05	.92	.83	.74	.68
685	T-1‡	.06	.09	.79	.71	.63	.58
714	T-1‡	.075	.15	.85	.77	.68	.63
718	T-1‡	.115	.16	.92	.83	.74	.68
7683	T-1§	.06	.05	.79	.71	.63	.58
7715	T-1§	.115	.15	.31	.28	.25	.23
2200	T-1¾†	.06	.05	.53	.48	.42	.39
7333	T-1¾#	.06	.05	.79	.71	.63	.58
815	T-1¾#	.115	.147	.49	.44	.39	.36
	6 VOLTS						
1784	T-1¾†	.2	.6	$0.29	$0.26	$0.23	$0.22
7945	T-1¾I	.04	.03	.49	.44	.39	.36
345	T-1¾#	.04	.03	.53	.48	.42	.39
	6.3 VOLTS						
379	T-1¾•	.2	.4	$0.53	$0.48	$0.42	$0.39
378	T-1¾▲	.2	.4	.53	.48	.42	.39
2180	T-1¾†	.04	.02	.33	.30	.26	.24
2181	T-1¾†	.2	.4	.33	.30	.26	.24
380	T-1¾#	.04	.02	.49	.44	.39	.36
381	T-1¾#	.2	.4	.49	.44	.39	.36
7380	T-1¾I	.04	.02	.59	.53	.47	.44
7381	T-1¾I	.2	.4	.53	.48	.42	.39
	10 VOLTS						
1869	T-1¾†	.014	.002	$0.43	$0.39	$0.34	$0.32
344	T-1¾#	.014	.002	.59	.53	.47	.44
7344	T-1¾I	.014	.002	.59	.53	.47	.44
	12 VOLTS						
7219	T-1†	.06	.15	$0.59	$0.53	$0.47	$0.44
32	T-1‡	.06	.15	1.17	1.05	.94	.87
	14 VOLTS						
8111	T-1†	.065	.15	$0.69	$0.62	$0.55	$0.51
1112	T-1‡	.065	.15	1.03	.93	.82	.76
386	T1-¾•	.08	.3	.53	.48	.42	.39
362	T-1¾▲	.08	.3	.53	.48	.42	.39
2182	T-1¾†	.08	.3	.30	.27	.24	.22
382	T-1¾#	.08	.3	.49	.44	.39	.36
330	T-1¾#	.08	.5	.49	.44	.39	.36
7382	T-1¾I	.08	.3	.53	.48	.42	.39
	18 VOLTS						
7220	T-1†	.026	.15	$1.06	$0.95	$0.85	$0.78
7241	T-1‡	.026	.15	1.46	1.31	1.17	1.08
2102	T-1¾†	.04	.15	.29	.26	.23	.21
370	T-1¾#	.04	.15	.53	.48	.42	.39
7370	T-1¾I	.04	.15	.59	.53	.47	.44
	28 VOLTS						
6838	T-1†	.024	.15	$1.06	$0.95	$0.85	$0.78
6839/856	T-1‡	.024	.15	1.49	1.34	1.19	1.10
388	T-1¾•	.04	.3	.53	.48	.42	.39
399	T-1¾▲	.04	.3	.53	.48	.42	.39
2187	T-1¾†	.04	.3	.31	.28	.25	.23
1764	T-1¾†	.04	.34	.31	.28	.25	.23
385	T-1¾#	.04	.2	.53	.48	.42	.39
387	T-1¾#	.04	.3	.49	.44	.39	.36
327	T-1¾#	.04	.34	.49	.44	.39	.36
7387	T-1¾I	.04	.3	.53	.48	.42	.39
7876	T-1¾I	.06	.34	.59	.53	.47	.44

* ±15%; all others ±25%. †Wire terminals. ‡Sub-midget flange base. §Sub-midget bi-pin base. #Midget flange base. •Midget groove base. ▲Midget screw base. IMidget bi-pin base. ††Nominal. *Bulk only; 500 min. #Ten-pack only.

INCANDESCENT LAMP HOLDERS

Relampable miniature holders have ⅜" dia. lens. **MCM-100** is .7" long and mounts with ⅜"-32 nut; for use with No. 685, 718, 1112 or 856 lamp, below. **MCM-175** is 1" long and mounts with ⅜"-32 nut; for use with No. 815, 381, 330, 382, 327 or 387 lamp, below. Specify red, green, amber, blue or white lens.

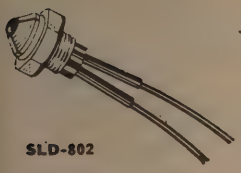
Alco No.	Color	Net Each, Lots of 1-24	25-99	100-499	500-999
MCM-100T*	Amber, Blue, Green, Red, White	$1.95	$1.56	$1.40	$1.25
MCM-175T§	Amber, Green, Red, White, Blue	2.15	1.72	1.55	1.38

*Submin. flange holder. §Min. flange holder.

SLD SERIES BRITE-LITE LED INDICATORS

High quality LED indicators for panel mounting. Two basic styles; extended and recessed. Extended LED provides 90° viewing angle. Recessed LED for high ambient light locations. High brightness LED's are GaAsP for red models; GaP for green and two-color red/green types.

LED'S FOR 7/32" DIAMETER MOUNTING HOLE



SLD-802



SLD-803

RATINGS AND SPECIFICATIONS

Parameters @ 25° C	Red LED	Green LED	Red/Green LED
Max. Dissipation, mW	100	75	75
Max. Fwd. Current, mA	50	30	30
Max. Rev. Voltage, VDC	4	5	5
Max. Fwd. Voltage, VDC	2 @ 30 mA	3 @ 20 mA	3 @ 20 mA
Max. Rev. Current, μA	100 @ 3 VDC	10 @ 4 VDC	10 @ 4 VDC
Peak Wavelength, nm	655	555	695/555
Storage Temp. Range, °C	−25 to +100	−25 to +100	−25 to +100

Alco Model No.	LED Color	Luminous Intensity (mcd)	Body/Lens	Anode Ident.	Termination	Net Each, Lots of 1-24	25-99	100-499	500-999
SLD-800R	Red	.7	Nickel/Extended	Base mark	LED leads	$1.45	$1.16	$1.04	$0.93
SLD-800G	Green	.48	Nickel/Extended	Base mark	LED leads	1.80	1.44	1.30	1.15
SLD-801R	Red	.7	Nickel/Recessed	Base mark	LED leads	1.45	1.16	1.04	.93
SLD-801G	Green	.48	Nickel/Recessed	Base mark	LED leads	1.80	1.44	1.30	1.15
SLD-802R	Red	.7	Nickel/Extended	Red wire	Insul. leads	1.45	1.16	1.04	.93
SLD-802G	Green	.48	Nickel/Extended	Red wire	Insul. leads	1.80	1.44	1.30	1.15
SLD-803R	Red	.7	Nickel/Recessed	Red wire	Insul. leads	1.45	1.16	1.04	.93
SLD-803G	Green	.48	Nickel/Recessed	Red wire	Insul. leads	1.80	1.44	1.30	1.15

LED'S FOR 1/4" DIAMETER MOUNTING HOLE



SLD-811



SLD-815

RATINGS AND SPECIFICATIONS

Parameters @ 25 °C	Red LED	Green LED	Red/Green LED
Max. Dissipation, mW	80	75	75
Max. Fwd. Current, mA	40	30	30
Max. Rev. Voltage, VDC	4	5	5
Max. Fwd. Voltage, VDC	2 @ 20 mA	3 @ 20 mA	3 @ 20 mA
Max. Rev. Current, μA	100 @ 3 VDC	10 @ 4 VDC	5 @ 4 VDC
Peak Wavelength, nm	655	555	695/555
Storage Temp. Range, °C	−20 to +80	−20 to +80	−25 to +100

Alco Model No.	LED Color	Luminous Intensity (mcd)	Body/Lens	Anode Ident.	Termination	Net Each, Lots of 1-24	25-99	100-499	500-999
SLD-811R	Red	2.1	Nickel/Extended	Red dot	LED leads	$1.45	$1.16	$1.04	$0.93
SLD-811G	Green	1.4	Nickel/Extended	Red dot	LED leads	1.80	1.44	1.30	1.15
SLD-812R	Red	2.1	Nickel/Recessed	Red dot	LED leads	1.45	1.16	1.04	.93
SLD-812G	Green	1.4	Nickel/Recessed	Red dot	LED leads	1.80	1.44	1.30	1.15
SLD-815R	Red	2.1	Black/Recessed	Red dot	LED leads	1.15	.92	.83	.74
SLD-815G	Green	1.4	Black/Recessed	Red dot	LED leads	1.55	1.24	1.12	.99
SLD-818RG	Red/Grn.	1.0/.7	Nickel/Recessed	*	LED leads	3.65	2.92	2.63	2.34
SLD-820RG	Red/Grn.	1.0/.7	Nickel/Extended	*	LED leads	3.65	2.92	2.63	2.34
SLD-821R	Red	2.1	Nickel/Extended	Red wire	Insul. leads	1.45	1.16	1.04	.93
SLD-821G	Green	1.4	Nickel/Extended	Red wire	Insul. leads	1.80	1.44	1.30	1.15
SLD-822R	Red	2.1	Nickel/Recessed	Red wire	Insul. leads	1.45	1.16	1.04	.93
SLD-822G	Green	1.4	Nickel/Recessed	Red wire	Insul. leads	1.80	1.44	1.30	1.15
SLD-828RG	Red/Grn.	1.0/.7	Nickel/Extended	Wire color	Insul. leads	3.65	2.92	2.63	2.34
SLD-830RG	Red/Grn.	1.0/.7	Nickel/Recessed	Wire color	Insul. leads	3.65	2.92	2.63	2.34

*Lead identification.

LED'S FOR 5/16" DIAMETER MOUNTING HOLE



SLD-866



SLD-856

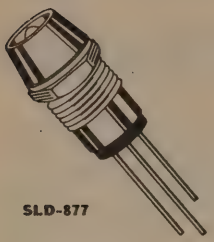
RATINGS AND SPECIFICATIONS

Parameters @ 25° C	Red LED	Green LED	Red/Green LED
Max. Dissipation, mW	100	75	35/75
Max. Fwd. Current, mA	50	30	15/30
Max. Rev. Voltage, VDC	4	5	5
Max. Fwd. Voltage, VDC	2 @ 30 mA	3 @ 20 mA	R: 2.3 @ 10mA G: 3 @ 20 mA
Max. Rev. Current, μA	100 @ 3 VDC	10 @ 4 VDC	10 @ 3 VDC
Peak Wavelength, nm	655	555	695/666
Storage Temp. Range, °C	−25 to +100	−25 to +100	−25 to +100

Alco Model No.	LED Color	Luminous Intensity (mcd)	Body/Lens	Anode Ident.	Termination	Net Each, Lots of 1-24	25-99	100-499	500-999
SLD-851R	Red	3.0	Nickel/Extended	Base mark	LED leads	$1.45	$1.16	$1.04	$0.93
SLD-851G	Green	1.5	Nickel/Extended	Base mark	LED leads	1.80	1.44	1.30	1.15
SLD-852R	Red	3.0	Nickel/Recessed	Base mark	LED leads	1.45	1.16	1.04	.93
SLD-852G	Green	1.5	Nickel/Recessed	Base mark	LED leads	1.80	1.44	1.30	1.15
SLD-853R	Red	3.0	Black/Extended	Red dot	LED leads	1.15	.92	.83	.74
SLD-853G	Green	1.5	Black/Extended	Red dot	LED leads	1.55	1.24	1.12	.99
SLD-855R	Red	3.0	Black/Recessed	Red dot	LED leads	1.15	.92	.83	.74
SLD-855G	Green	1.5	Black/Recessed	Red dot	LED leads	1.55	1.24	1.12	.99
SLD-856R	Red	3.0	Chrome/Extended	Red dot	LED leads	1.20	.96	.86	.77
SLD-856G	Green	1.5	Chrome/Extended	Red dot	LED leads	1.60	1.28	1.15	1.02
SLD-857R	Red	3.0	Chrome/Recessed	Red dot	LED leads	1.20	.96	.86	.77
SLD-857G	Green	1.5	Chrome/Recessed	Red dot	LED leads	1.60	1.28	1.15	1.02
SLD-865RG	Red/Grn.	1.5	Black/Extended	#	LED leads	2.80	2.24	2.02	1.79
SLD-866RG	Red/Grn.	1.5	Black/Recessed	#	LED leads	2.80	2.24	2.02	1.79

#Common cathode has longest (center) lead; green LED anode has shortest lead; red LED anode has intermediate lead.

SLD SERIES BRITE-LITE LED INDICATORS
LED'S FOR 3/8" DIAMETER MOUNTING HOLE


SLD-877


SLD-870

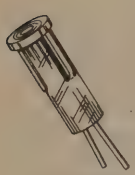
RATINGS AND SPECIFICATIONS

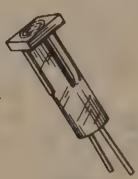
Parameters @ 25° C	Red LED	Green LED	Red/Green LED
Max. Dissipation, mW	100	75	35/75
Max. Fwd, Current, mA	50	30	15/30
Max. Rev. Voltage, VDC	4	5	5
Max. Fwd, Voltage, VDC	2 @ 30 mA	3 @ 20 mA	R: 2.3 @ 10mA G: 3 @ 20 mA
Max. Rev. Current, μA	100 @ 3 VDC	10 @ 4 VDC	10 @ 3 VDC
Peak Wavelength, nm	655	555	695/555
Storage Temp. Range, °C	−25 to +100	−25 to +100	−25 to +100

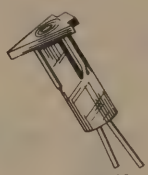
Alco Model No.	LED Color	Luminous Intensity (mcd)	Body/Lens	Anode Ident.	Termination	Net Each, Lots of 1-24	25-99	100-499	500-999
SLD-870R	Red	3.0	Nickel/Extended	Red dot	Solder lugs	$1.70	$1.36	$1.22	$1.09
SLD-870G	Green	1.5	Nickel/Extended	Red dot	Solder lugs	2.10	1.68	1.51	1.34
SLD-870RG	Red/Grn.	1.5	Nickel/Extended	#	LED leads	3.50	2.80	2.52	2.24
SLD-871R	Red	3.0	Nickel/Recessed	Red dot	Solder lugs	1.70	1.36	1.22	1.09
SLD-871G	Green	1.5	Nickel/Recessed	Red dot	Solder lugs	2.10	1.68	1.51	1.34
SLD-871RG	Red/Grn.	1.5	Nickel/Recessed	#	LED leads	3.50	2.80	2.52	2.24

#Common cathode has longest (center) lead; green LED anode has shortest lead; red LED anode has intermediate lead.

BL SERIES SUB-MINIATURE LED INDICATORS


BLD-62


BLD-72


BLD-82


BL-100


BL-175


BLF-2 Flasher

Sub-miniature panel indicators with built-in T-1 LEDs in a choice of red or green. Contemporary styling adds color and vitality to equipment appearance. Ribbed body design provides "anti-turn" mounting. Maximum dissipation ratings listed apply at 25° C; derate 1.1 mW/°C at higher temperatures for BLD and T-1 BL models; derate 2.67 mW/°C for T-1¾ BL models. Minimum luminous intensities at 20 mA exceed 0.5 mcd for red and 0.8 mcd for green LEDs. Flasher model BLF-2 has built-in IC that produces a light pulse about 3 times per second. Requires 5 VDC ±5% source and 28 mA peak (about 15 mA average) typically and may be controlled directly by TTL and CMOS circuits. BLH mounts provide attractive, yet inexpensive means of panel mounting. T-1 mounts are one-piece. T-1¾ are two-piece.

Alco Model No.	Style	LED Color	Maximum Dissipation (mW @ 25° C)	Max. I_{FWD} (mA)	Max. V_{FWD} (VDC @ 20 mA)	Net Each, Lots of 1-24	25-99	100-499	500-Over
BLD-62	Round	Red	80	40	2	$0.75	$0.60	$0.54	$0.48
BLD-65	Round	Green	80	30	3	.89	.71	.64	.57
BLD-72	Square	Red	80	40	2	.75	.60	.54	.48
BLD-75	Square	Green	80	30	3	.89	.71	.64	.57
BLD-82	Arrow	Red	80	40	2	.75	.60	.54	.48
BLD-85	Arrow	Green	80	30	3	.89	.71	.64	.57
BL-102	T-1	Red	80	40	2	.39	.31	.28	.25
BL-105	T-1	Green	80	30	3	.59	.47	.42	.38
BL-172	T-1¾	Red	200	100	2	.45	.36	.32	.29
BL-175	T-1¾	Green	120	30	3	.65	.52	.47	.42
BLF-2*	T-1¾	Red	200	...	...	1.49	1.19	1.07	.95
BLH-10B#	T-1	Black	...	...	...	.10	.08	.07	.06
BLH-17B#	T-1¾	Black	...	...	...	.12	.10	.09	.08
BLH-17C#	T-1¾	Clear	...	...	...	.12	.10	.09	.08

*Flasher. #Quantity Pricing: BLH-10, $44.80/M; BLH-17, $56.00/M.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

4-X80B SERIES SOLID STATE LED's

Low power consumption for IC compatibility and cool operation. Long life virtually eliminates replacement. Solid lens construction. Very intense light source; up to 45.0 mcd luminous intensity. Subminiature, T-1¾ size cylindrical lens. Silver-plated leads standard on all devices. Mounting clip No. 4-6B available for panel mounting. **Forward Voltage (at If = 20 mA):** Orange and red, 2 V typical, 3 V max.; yellow, 2.1 V typical, 3 V max.; green, 2.2 V typical, 3 V max. **Reverse Voltage (at Ir = 100 μA):** 25 V typical, 5 V min. **Response Time:** 50 nsec. **Capacitance (at 1 MHz, 0 VDC):** 45 pF. **Max. Continuous Forward Current:** 35 mA at 25° C. **Max. Power Dissipation:** 105 mW at 25° C. **Max. Power Dissipation Above 25° C:** −1.15 mW/°C. **Max. Peak Forward Current (1 μsec. pulse, 0.1% duty cycle):** 5 amps. **Storage and Operating Temperature Range:** −55° C to +100° C.

CML No.	Lens Tint	Lens Diffusion	Material	Luminous Intensity @ If = 20 mA (mcd) Min.	Luminous Intensity @ If = 20 mA (mcd) Typ.	Typ. Viewing Angle
4-282B	Red	Transparent	GaAsP	17.0	40.0	28
4-282B-2	Red	Transparent	GaAsP	30.0	50.0	28
4-283B	Red	Diffused	GaAsP	3.0	8.0	24
4-284B	Red	Diffused	GaAsP	3.0	6.0	65
4-284B-2	Red	Diffused	GaAsP	3.0*	8.0	65
4-382B	Green	Transparent	GaP	5.0	15.0	28
4-382B-2	Green	Transparent	GaP	12.0	20.0	28
4-383B	Green	Diffused	GaP	0.9	3.0	24
4-384B	Green	Diffused	GaP	0.8	1.5	65
4-384B-2	Green	Diffused	GaP	2.2	3.0	65
4-482B	Orange	Transparent	GaAsP	17.0	40.0	28
4-482B-2	Orange	Transparent	GaAsP	30.0	50.0	28
4-483B	Orange	Diffused	GaAsP	3.0	8.0	24
4-484B	Orange	Diffused	GaAsP	3.0	6.0	65
4-484B-2	Orange	Diffused	GaAsP	3.0*	8.0	65
4-582B	Yellow	Transparent	GaAsP	16.0	45.0	28
4-582B-2	Yellow	Transparent	GaAsP	24.0	50.0	28
4-583B	Yellow	Diffused	GaAsP	3.0	10.0	24
4-584B	Yellow	Diffused	GaAsP	2.5	6.0	65
4-584B-2	Yellow	Diffused	GaAsP	2.2*	4.0	65

*Luminous intensity at If = 10 mA.

Series 4-X80B—Net Each, Lots of: 10–99 ..... **$0.61**
100–499 ..... **$0.54**; 500–999 ..... **.47**

Series 4-X80B-2—Net Each, Lots of: 10–99 ..... **$1.11**
100–499 ..... **$0.98**; 500–999 ..... **.85**

4-80B SERIES RED

Red gallium arsenide phosphide light-emitting diodes. Variety of lens styles and luminance intensities widens design choice. **Power Dissipation:** 180 mW (derate 2.0 mW/°C. above 25°C). **Forward Voltage:** 1.7 volts typical at 20 mA, 2.2 volts max. **Reverse Voltage:** 5.0 volts. **Wavelength:** 660 mM at peak. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2" dia. x 0.340" length plus two 0.75 leads.

CML No.	Lens Tint	Lens Diffusion	Luminous Int. @ If = 20mA. Typical	Viewing Angle Typical
4-80B	Clear	Transparent	2.0 mcd	50°
4-81B	Clear	Diffused	1.6 mcd	72°
4-82B	Red	Transparent	2.0 mcd	50°
4-84B	Red	Diffused	1.6 mcd	80°
4-85B	Red	Diffused	0.8 mcd	110°
4-86B	Red	Diffused	0.8 mcd	150°

Models 4-80B, -81B, -82B and -85B—Net Each, Lots of: 10–99 ..... **$0.39**
100–499 ..... **$0.35**; 500–999 ..... **.30**

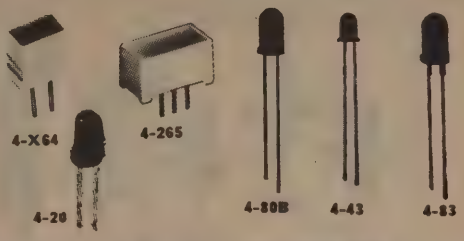
Model 4-84B—Net Each, Lots of: 10–99 ..... **$0.27**
100–499 ..... **$0.24**; 500–999 ..... **.21**

Model 4-86B—Net Each, Lots of: 10–99 ..... **$0.27**
100–499 ..... **$0.24**; 500–999 ..... **.21**

4-83 RED

The red diffused lens and T-1¾ size are ideally suited for panel and back-lighting applications. **Luminous Intensity:** 2.0 mcd at 10 mA. **Wavelength:** 660nM. **Power Dissipation:** 180 mW (derate 2.0 mW/°C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA, 2.2 volts max. **Reverse Voltage:** 3.0 volts. **Turn On and Turn Off Time:** 50nS. **Size:** 0.2" dia x 0.34" length, plus two 0.85" leads.

Model 4-83—Net Each, Lots of: 10–99 ..... **$0.32**
100–499 ..... **$0.29**; 500–999 ..... **.25**



4-20, 4-21, 4-22, 4-23 RED

Each unit supplied with snap-in mounting clip for panel mounting. Rigid terminals allow device to be connected in a variety of ways, soldered, welded or wire-wrapped, as well as being pluggable. Tin-plated leads. Choice of clear and red lenses, transparent or translucent. **Power Dissipation:** 180 mW (derate 2.0 mW/° C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA, 2.0 volts max. **Reverse Voltage:** 3 volts. **Storage and Operating Temperature:** −55° C to +100° C. **Wavelength** 660 nM at peak. **Turn On and Turn Off Time:** 50 ns. **Soldering Time at 260° C:** 5 seconds. **Size:** .190" dia. x .340" length, plus two .55" leads. **Hole for mounting clip:** ¼" dia. **Max. Panel Thk.:** ⅛".

CML No.	Lens Tint	Lens Diffusion	Luminous Int. @ Ir = 20 mA Typical	Viewing Angle Typical
4-20	Clear	Transparent	2.0 mcd	90°
4-21	Clear	Diffused	1.6 mcd	90°
2-22	Red	Transparent	1.6 mcd	90°
4-23	Red	Diffused	0.4 mcd	180°

Models 4-20, -21 and -22—Net Each, Lots of: 10–99 .... **$0.66**
100–499 ..... **$0.59**; 500–999 ..... **.51**

Model 4-23—Net Each, Lots of: 10–99 ..... **$0.54**
100–499 ..... **$0.48**; 500–999 ..... **.42**

4-43B RED

The red diffused lens and T-1 size make the 4-43B the perfect choice for high-density array and indicator applications. **Luminous Intensity:** 1.0 mcd at 20 mA. **Peak Wavelength:** 660 nM. **Power Dissipation:** 100 mW (derate 1.3 mW/°C above 25° C). **Forward Voltage:** 1.6 volts typical at 20 mA., 2.0 volts max. **Reverse Voltage:** 5.0 volts. **Turn On and Turn Off Time:** 50nS. **Size:** 0.120" dia. max. x 0.2" length, plus two 1.00" min. leads.

Model 4-43B—Net Each, Lots of: 10–99 ..... **$0.54**
100–499 ..... **$0.48**; 500–999 ..... **.42**

4-X64 SERIES RECTANGULAR LED INDICATORS

Solid state LED lamps with .220" x .125" lighted area. Stackable in X or Y direction. High brightness; typically 4 mcd at 20 mA. Compact, rugged, lightweight. No light leakage from unit or sides. **Continuous Forward Current:** 35 mA max. at 25° C. **Power Dissipation:** 105 mW max. at 25° C; derated 1.15 mW/°C above 25° C. **Peak Forward Current (1 μsec. pulse, 1% duty cycle):** 300 pps, 1 amp. **Temperature Range:** −55° C to +100° C. **Solder Time (at 230° C):** 5 sec. Lens tint and light color are the same. Diffused lenses.

CML No.	Light Color	Typical Peak Wavelength (nm)	Luminous Intensity at If = 20 mA (mcd) Min.	Luminous Intensity at If = 20 mA (mcd) Typ.
4-264	Red	635	1.0	4.0
4-364	Green	565	1.0	3.0
4-564	Yellow	585	1.0	4.0

Series 4-X64—Net Each, Lots of: 10–99 ..... **$0.61**
100–499 ..... **$0.54**; 500–999 ..... **.47**

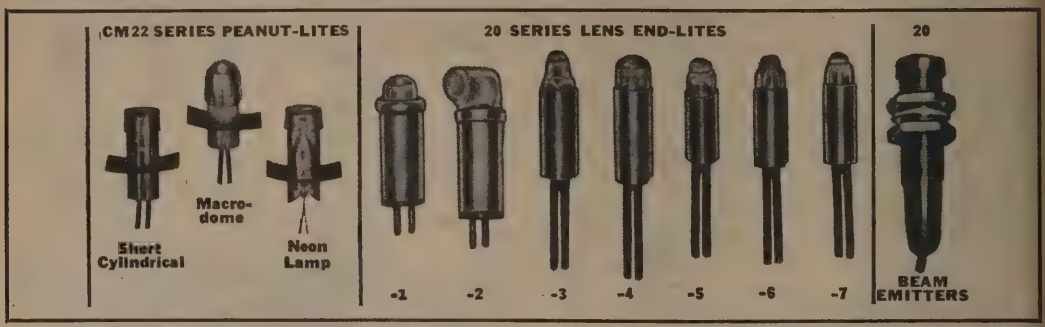
4-265 SERIES RED RECTANGULAR LED INDICATORS

Solid-state LED lamps with .500" x .250" lighted area. Stackable in X or Y direction. Compact, rugged, lightweight. No light leakage from sides. **Luminous Intensity:** 4.5 mcd at 20 mA. **Max. Continuous Forward Current:** 35 mA per chip at 25° C. **Power Dissipation:** 200 mW at 25° C; derated, −4.3 mW/°C above 25° C. **Peak Forward Current (1 μsec pulse, 0.1% duty cycle):** 300 pps, 1 amp. **Storage Temperature:** −40° C to +100° C. **Operating Temperature:** −40° C to +85° C. Lens tint and light color are the same. Diffused lenses.

Series 4-265—Net Each, Lots of 10–99 ..... **$1.84**
100–499 ..... **$1.71**; 500–999 ..... **1.48**

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CM21 SERIES SOCKETS FOR BI-PIN LAMPS

Pushfit Teflon® sockets accept all CM7 Bi-Pin lamps listed above. Snap directly into panels, brackets or PC boards. Type CM21-1 has beryllium copper contacts with .050″ pin centers, for T-1 lamps. CM21-2 has phosphor bronze contacts with gold over silver plating, with .125″ pin centers for T-1¼ and T-1¾.

®Registered DuPont trademark.

CML No.	For Bi-Pin Lamp	Mtg. Hole	Net Each, Lots of* 10-99	100-499	500-999
CM21-1	T-1	.122″	$2.21	$1.93	$1.55
CM21-2	T-1¼, T-1¾	.221″	2.72	2.38	1.90

20 SERIES SUBMINIATURE LENS END-LITES

Subminiature end-lites produce axially centered spots for minimal adjustment problems and easy lamp replacement. Ideal for close proximity use with photo sensors, where an intense spot of luminous and infrared energy is required. Typical applications include encoders, tape sensors, card readers and optical scanners. Types 20-1, -2, -17 and -19 have clear anodized aluminum cartridge body; stainless steel terminals (20-19 #24 AWG stranded wire leads); nylon insulation. Types 20-3 thru -7 and -20 have gold anodized aluminum shell; #24 AWG stranded wire leads; Type B insulation per MIL-W-16878; semi-resilient thermosetting resin encapsulation. Types 20-5 thru 20-7 are small enough to be mounted on .250″ centers for card reader applications. **Spot Specifications:** 20-1, -19: When projected ⅜″ from end of bulb, spot covers ⅛″ dia. target, concentric with long axis at minimum intensity of 750 ft.-candles. 20-2: When projected 1″ from end of bulb, spot covers 1″ dia. target with minimum of 350 ft.-candles. 20-3: When projected ⅜″ from end of bulb, spot covers 1/16″ dia. target concentric with sleeve; intensity ⅜″ from bulb is minimum of 750 ft.-candles; spot is narrow elliptical. 20-4: Same as 20-3 except covers ⅛″ dia. target; spot is "round" elliptical. 20-5 thru -7, -20 have no spot specifications, but have axially aligned lamp; 20-17 spot is axially aligned with housing.

CML No.	Lamp Type	V	Amps (±10%)	Aver. Life, Hours	Net Each, Lots of* 10-99	100-499	500-999
20-1	TL-1¾	2.5	.350	10,000	$ 6.97	$ 6.15	$ 5.33
20-2	SL-2	2.5	.325	10,000	25.93	22.88	19.83
20-3	TL-1¾	2.5	.350	10,000	6.63	5.85	5.07
20-4	TL-1¾	2.5	.350	10,000	8.28	7.31	6.33
20-5	TL-1¼	2.5	.200	1,000	7.45	6.57	5.69
		2.1	.180	10,000			
20-6	TL-1¼	6.0	.200	1,000	5.51	4.86	4.21
		5.1	.180	10,000			
20-7	TL-1¼	28.0	.040	1,000	6.55	5.78	5.01
		24.0	.036	10,000			
20-17	TL-1¾	5.0	.180	10,000	11.41	10.07	8.72
20-20	TL-1¾	5.0	.180	10,000	13.46	11.88	10.30

20 SERIES BEAM EMITTERS

Compact assemblies designed to project narrow cones of infrared and luminous energies over distances of 3″ to 20″. Spots produced are round, varying from ⅜″ to 1¼″. Infrared outputs are approximately 75% of input power, ideal for integration with silicon type sensors. Low power consumption (782 mW), axially aligned spots, easy mounting and long life. **Volts:** 2.3. **Current:** .340 amps, ±10%. **Average Life:** 10,000 hours. **Construction:** Anodized aluminum housing, #24 AWG wire leads, semi-resilient thermosetting resin encapsulation. **Size:** .475″ dia.; 20-8-01, 1.33″ long; 20-9-01, 2.08″ long.

CML Number	Focal Distance	Projected Spot Dia.	Net Each, Lots of* 10-99	100-499	500-999
20-8-01	7″–9″	1¼″–1¾″	$26.04	$22.98	$19.92
20-9-01	14″–16″	1″–1⅛″	31.28	27.60	23.92

39 SERIES LAMP FILTERS (Not Illus.)

Slip-on filters are translucent, precision molded silicone rubber caps; for subminiature and miniature lamps. They assume basic lamp contours, are impervious to color shift. Replaceable and reusable. Temperature range, −62° to +225° C. **TO ORDER:** Add suffix to CML Number to indicate color: **-1**, red; **-2**, blue/white; **-3**, clear; **-4**, amber; **-5**, green; **-6**, blue; **-7**, yellow.

CML Number	Lamp Size	Size, In. Dia. x L.	Net Each, Lots of* 10-99	100-499	500-999
39-02	T-¾	.090 x .230	$0.46	$0.41	$0.35
39-03	T-1	.096 x .3125	.43	.38	.30
39-04	T-1	.096 x .219	.43	.38	.35
39-05	T-1¼	.175 x .265	.50	.43	.35
39-06	T-1¾	.214 x .375	.43	.38	.30
39-07	T-1¾	.218 x .3125	.43	.38	.30
39-08	T-1¾	.325 x .279	.43	.38	.30
39-11	T-3¼	.370 x .672	.91	.80	.64

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CML SERIES CARTRIDGE INDICATORS

Cartridge housings with incandescent or neon lamps; cool operating temperatures for long life. Mount in cartridge holder, or panel mounting with speed clip (not included). Clear anodized aluminum housings, nylon insulation, transparent or translucent polycarbonate (color matched to industrial standards) caps. Meet requirements of MIL-L-3661. Stainless steel pins are located off-center for polarization. Stainless steel pin terminals, or #24 AWG wire leads. Available with hot stamped legends; write for prices. **Body Size:** .284" dia. x .634" long.

HOW TO ORDER: Insert two interfixes in CML number, replacing **XX** or **YX** shown in tables below. First interfix indicates cap style and terminal configuration: **X-1,** flush cap with wire leads; **X-2,** short cylindrical cap with wire leads; **Y-5,** flush cap with pin terminals; **6,** short cylindrical cap with pin terminals. Second interfix indicates cap type: **3,** polycarbonate, transparent; or **4,** polycarbonate, translucent.

Also replace final **X** in CML number to indicate cap color: **1,** red; **2,** green; **3,** amber; **5,** white; **6,** yellow; or **7,** clear.

WITH T-1¾ INCANDESCENT LAMPS

CML No.* CML-	Volts	Amps	M.S. C.P., Approx.	Aver. Life, Hours	Net Each, Lots of* 10-99	100-499	500-999
XX013X	6.3	.20	.40	50,000	$3.15	$2.76	$2.21
YX013X	6.3	.20	.40	50,000	3.15	2.76	2.21
XX008X	10.0	.04	.08	5,000	3.15	2.76	2.21
YX008X	10.0	.04	.08	5,000	3.15	2.76	2.21
XX028X	14.0	.08	.30	50,000	3.15	2.76	2.21
YX028X	14.0	.08	.30	50,000	3.15	2.76	2.21
XX029X	28.0	.04	.30	25,000	3.15	2.76	2.21
YX029X	28.0	.04	.30	25,000	3.15	2.76	2.21

Net Each, Lots of: 10–99 ..... **$3.15**
100–499 ..... **$2.76**; 500–999 ..... **2.21**
*See How To Order information above, and add two interfixes and suffix, as indicated.

No. CML-10380 Cartridge Indicator Mounting Clip—For mounting CML series indicators directly in panel, in 9/32" clearance hole. Spring tempered steel. Net Each, Lots of: 10–99 ..... **$0.13**

No. CM21-3 Cartridge Indicator Connector—Accepts CML series indicators for low-cost mounting (not in panels). Phenolic body, cadmium plated brass contacts.

Net Each, Lots of: 10–99 ..... **$0.50**

★WRITE FOR PRICES ON LARGER QUANTITIES

CML SERIES CARTRIDGE INDICATORS



Short Cylindrical — Flush Cap

CML SERIES CARTRIDGE HOLDERS



10202-1 — 10204-1 — 10203-1

CML SERIES CARTRIDGE HOLDERS

Panel mounting holders for T-1¾ or T-2 lamps. Body, collar and facing nut are black anodized aluminum. Molded phenolic insulation. Turret terminals are spring brass, gold over nickel plate; solder cup terminals are spring brass, tintilate plate. Types 10202-1 and 10203-1 have 9/32" thick knurled collar nut. Mount in round or "D" hole, .375" dia., in panels to 1 9/32" thick (when not using collar nut). Terminal pins are polarized.

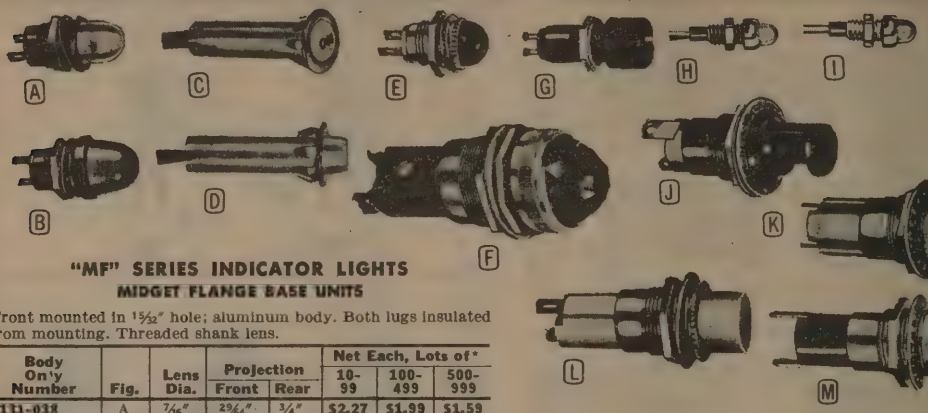
CML No. CML-	Mounting	Terminals	Net Each, Lots of* 10-99	100-499	500-999
10202-1	Front/rear	Turret	$2.00	$1.75	$1.40
10203-1	Front/rear	Solder	2.00	1.75	1.40
10204-1	Front	Solder	1.66	1.46	1.17

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

Boston Phone (617) 328-4600



"MF" SERIES INDICATOR LIGHTS

MIDGET FLANGE BASE UNITS

Front mounted in 1 5/32" hole; aluminum body. Both lugs insulated from mounting. Threaded shank lens.

Body Only Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 10-99	100-499	500-999
5131-038	A	7/16"	2 9/64"	3/4"	$2.27	$1.99	$1.59

Number 131A-303 Lens Only—Net Each, Lots of 10–99. **$0.70**
100–499..... **$0.62**; 500–999..... **$0.49**

"MF" OIL-TITE/WATER-TITE UNITS

Recessed rubber "O" rings will withstand up to 25 p.s.i. pressure. Maximum panel thickness, 3/16". Per MIL drawing: D5-15-3217.

5139-038	B	37/64"	1 5/32"	2 5/32"	$2.93	$2.56	$2.05

Number 139A-403 Lens Only—Net Each, Lots of 10–99.. **$1.26**
100–499..... **$1.11**; 500–999..... **$0.89**

"GLO-LITES"

One-piece nylon body and lens with built-in Hi-Brite neon lamp. With two lead terminations, 22 ga. plastic-insulated wire. Mount from front of panel, up to .080" thick, in 1/2" dia. hole on 1 1/16" centers. Built-in resistor: 25K for 115 V.

6073-001-534	C	27/64"	1/8"	1 15/32"	$1.36	$1.19	$0.95
6073-001-634	D	27/64"	5/16"	1 9/32"	1.36	1.19	.95

"TINYLITE" SERIES INDICATOR LIGHTS

MIDGET SCREW BASE
G-2 INCANDESCENT LAMPS
7 TO 28 VOLTS

Lamps replaceable from front. Mount from front of panel, up to 5/32" thick, in 7/16" dia. hole on 1 9/32" centers. Lamps built-in; 7 V in 5126-022; 28 V in 5128-022.

5126-022-204	E	7/16"	2 1/64"	1 3/16"	$2.40	$2.10	$1.68
5126-022-604	..	3/8"	2 1/64"	1 3/16"	2.40	2.10	1.68
5128-022-204	E	7/16"	2 1/64"	2 9/32"	2.40	2.10	1.68
5128-022-604	..	3/8"	2 1/64"	2 9/32"	2.40	2.10	1.68

1" LENS INDICATOR LIGHTS

CANDELABRA SCREW S-6—115 VOLTS
"TITELITE"

Neoprene gaskets seal out oil, water, dust and dirt.

5796-523	F	1"	1 1/16"	1 27/32"	$3.84	$3.36	$2.69

Number 78A-416 Lens Only—Net Each, Lots of 10–99.. **$2.16**
100–499..... **$1.89**; 500–999..... **$1.51**

CARTRIDGE LAMPHOLDER

Lampholder has lamp cartridge replaceable from front. Mount from rear of panel, up to 1 1/64" thick, in 3/4" dia. hole on 2 1/32" centers. Two tinned turret lugs. No resistor.

4428-001	G	..	3/8"	5 1/64"	Use CML10202-1		
CML10202-1	G	..	..	..	$2.00	$1.75	$1.40

LED "SOLID STATE ASTROLITES"

Mount to 3/16" th., on 1 1/32" ctrs., in .191" dia. "D" hole. Two 6" lead wires. 2.1 VDC: red/clear (Glows red when lit). 2.6 VDC: green/yellow. Specify LED color.

6039-004-304	H	17/64"	17/64"	1 3/32"	$2.42	$2.11	$1.69
6039-005-304	I	17/64"	17/64"	1 3/32"	2.14	1.88	1.50

INSTRUMENT LIGHT

MINIATURE BAYONET BASE T-3 1/4—6 TO 28 VOLTS

Threaded hood. Lamps replaceable from front. Mount from fron of panel, to 1 3/32" th., in 1 1/16" dia. hole on 3 1/32" ctrs.; 2 solder lugs

Lamp Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Net Each, Lots of* 10-99	100-499	500-999
906-250	J	..	1 1/16"	1 3/8"	$3.66	$3.21	$2.57

"GEMLITE"

Replaceable, long-life, sub-midget incandescent lamp T-1, 5 V Front mounted in 5/16" hole. Brass body; two lugs insulated fron ground. Meets MIL applications. Max. panel thickness, 1/32".

5160-458	..	1/4"	1/4"	1 1/32"	$3.71	$3.27	$2.83

Number 160A-604 Lens Only—Net Each, Lots of 10–99. **$0.67**
100–499..... **$0.59**; 500–999..... **$0.47**

"DELUXE MOLDED" INDICATOR LIGHTS

MINIATURE BAYONET BASE T-3 1/4—6 TO 28 VOLTS
NEON B-2A—115 & 250 V—UL & CSA APPROVED

Polished chrome finish. Assured dependability; fine appearance Feature E-Z-Tite flange for quick assembly with No. 32 wrench Lamp replaceable from front. Mount from front of panel, up t 1 3/32" thick, in 1 1/16" dia. hole on 3 1/32" centers. Neon lamps hav built-in series resistor. Two solder lugs.

Body Only Number	Fig.	Lens Dia.	Projection Front	Projection Rear	Resis., Ohms	Net Each, Lots* 10-99	100-499	500-999
5200-222	K	1/2"	17/32"	1 5/16"	....	$2.00	$1.75	$1.40
5200-232	..	5/8"	1/2"	1 5/16"	22K	2.37	2.07	1.66
5200-242	L	5/8"	1/2"	1 5/16"	100K	2.37	2.07	1.66

Number 25-105 Dome Lens Only—
Net Each, Lots of 10–99..... **$0.7**
100–499..... **$0.63**; 500–999..... **$0.5**

Number 25P-607 Flat Lens Only—
Net Each, Lots of 10–99..... **$0.6**
100–499..... **$0.50**; 500–999..... **$0.4**

STANDARD SERIES INDICATOR LIGHTS

MINIATURE BAYONET T-3 1/4—6 TO 28 VOLTS
NEON B-2A—115 & 250 V—UL & CSA APPROVED

Nickel-plated lens holder and flange. Replace lamps from front Front-mount in 1 1/16" hole on 3 1/32" centers in panel up to 1 3/32" thick Two solder lugs.

5100-822	..	..	..	..	....	$1.36	$1.19	$0.95
5100-832	M	5/8"	1/2"	1 23/32"	25K	1.73	1.51	1.21
5100-842	M	5/8"	1/2"	1 23/32"	100K	1.73	1.51	1.21

Number 25P-326 Lens Only—Net Each, Lots of 10–99.. **$0.5**
100–499..... **$0.50**; 500–999..... **$0.4**

†These units can use 120 V min. bay. incandescent lamp; 3 watt T-2 bulb, 1500-ft. candles, life 3000 hours (twice cand. screw) Lamp prices on request.

★PRICES LESS LAMPS UNLESS BUILT-IN.

WRITE FOR O.E.M. DISCOUNTS ON LARGER QUANTITY ORDERS.

SPECIFY COLOR ON ORDER: **Incandescent and Neon—** Red, Yellow (Amber), White or Colorless. **Incandescent Only—**Green or Blue.

This is a partial listing of miniature and subminiature lamps. Miniature lamps are most commonly used in numerous applications for panel indicators, aircraft, flashlight and radio or TV pilot lights. The subminiature lamps were specifically designed for modern, up-to-date special equipment such as computers, miniature switches, medical electronic equipment, aircraft, aerospace, etc. Many other uses are met where the ultimate in precision miniature lamp techniques is demanded. Engineered to military specifications, they are used as standards on many classified government projects and business machines. Lamps listed herein are the most popular types available from Chicago Miniature. If your application requires a special lamp or one not shown, send us your application needs. We will be pleased to submit our recommendations.

MINIATURE LAMPS

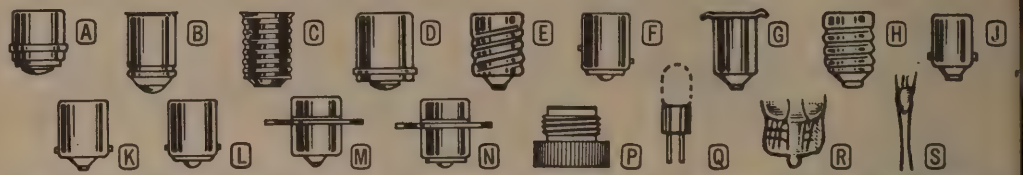
Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499	500-999
PR-2	2.38	.50	.80	G§	B-3½	$0.46	$0.41	$0.35
PR-3*	3.57	.50	1.50	G§	B-3½	.46	.41	.35
PR-4	2.33	.27	.40	G§	B-3½	.46	.41	.35
PR-6*	2.47	.30	.45	G§	B-3½	.46	.41	.35
PR-7	3.70	.30	.90	G	B-3½	.46	.41	.35
PR-12	5.95	.50	3.10	G§	B-3½	.46	.41	.35
PR-13	4.75	.50	2.20	G§	B-3½	.46	.41	.35
PR-16	12.5	.25	.27	G	B-3½	.53	.47	.40
12	6.3	.15	.35	Q	G-3½	.54	.48	.42
13*	3.7	.30	.98	H	G-3½	.32	.29	.25
14*	2.47	.30	.50	H	G-3½	.29	.26	.22
27*	4.9	.30	1.4	H	G-4½	.73	.66	.56
43	2.5	.50	.50	J	T-3¼	.46	.40	.35
44*	6.3	.25	.90	J	T-3¼	.31	.27	.23
45*	3.2	.35	.50	J	T-3¼	.71	.63	.55
47*	6.3	.15	.52	J	T-3¼	.31	.27	.23
48	2.0	.06	.04	H	T-3¼	.54	.48	.42
49	2.0	.06	.04	J	T-3¼	.54	.48	.42
50	7.5	.22	1.0	H	G-3½	.31	.27	.23
51*	7.5	.22	1.0	J	G-3½	.34	.30	.26
53*	14.4	.12	1.0	J	G-3½	.36	.32	.27
55*	7.0	.41	2.0	J	G-4½	.44	.39	.34
57	14.0	.24	2.0	J	G-4½	.37	.33	.29
67*	13.5	.59	4.0	K	G-6	.43	.38	.33
68*	13.5	.59	4.0	L	G-6	.49	.44	.38
73	14.0	.08	.30	R	T-1¾	.44	.39	.34
82*	6.5	1.05	6.0	L	G-6	.49	.44	.38
87*	6.8	1.91	15.0	K	S-8	.94	.83	.72
88*	6.8	1.90	15.0	L	S-8	.73	.65	.56
90*	13.0	.58	6.0	L	G-6	.53	.47	.40
93*	12.8	1.04	15.0	K	S-8	.70	.62	.53
94*	12.8	1.0	15.0	L	S-8	.68	.60	.52
123	1.25	.30	10.0	H	G-3½	.32	.29	.25
131*	1.3	.10	.03	H	G-3½	.32	.29	.25
159	6.3	.15	3.8	R	T-3¼	.24	.21	.18
161	14.0	.19	1.0	R	T-3¼	.26	.23	.20
194	14.0	.27	2.0	R	T-3¼	.26	.23	.20
222*	2.25	.25	.....	H	GTL-3	.46	.41	.35
224	2.15	.22	.....	SP‡	GTL-2¾	.58	.51	.44
239	6.3	.36	.67	J	T-3¼	1.07	.95	.82
240	6.3	.36	.67	J	T-3¼	1.16	1.02	.88
252	2.5	.35	.....	D	GTL-1¾	3.89	3.44	2.98
253	2.5	.35	.....	B	GTL-1¾	3.76	3.32	2.87
253X	2.5	.35	.....	B	GTL-1¾	4.68	4.13	3.58
261	2.5	.35	.....	B	GTL-1¾	4.78^	4.22^	3.65^
301*	28.0	.17	3.0	K	G-5	1.31	1.16	1.00
304*	28.0	.30	6.0	L	G-6	1.39	1.23	1.07
305*	28.0	.51	15.0	K	S-8	1.68	1.49	1.29
307*	28.0	.66	21.0	K	S-8	1.36	1.20	1.04
313*	28.0	.17	.35	J	T-3¼	.56	.50	.43
323*	3.0	.19	.250	P	T-1¼	2.67	2.36	2.04
324	3.0	.19	.250	S	T-1¼	.90	.80	.69
325	3.0	.19	.250	T‡	T-1¼	2.82	2.49	2.16
327*	28.0	.04	.340	D	T-1¾	.65	.57	.49
328*	6.0	.20	.60†	D	T-1¾	.60	.53	.46
330	14.0	.08	.500	D	T-1¾	.85	.75	.65
331	1.35	.06	.01	D	T-1¾	1.24	1.10	.95
334	28.0	.04	.340	B	T-1¾	1.12	.99	.86
336	14.0	.08	.50	B	T-1¾	1.19	1.05	.91
337	6.0	.20	.60	B	T-1¾	1.24	1.10	.95
344	10.0	.014	.002	B	T-1¾	1.39	1.23	1.07
346	18.0	.04	.15	B	T-1¾	1.41	1.25	1.08
363	14.0	.20	2.0	J	G-3½	.44	.39	.34
370	18.0	.04	.15	D	T-1¾	.99	.87	.75
375	3.0	.015	.003	D	T-1¾	1.36	1.20	1.04
376	28.0	.06	.340	D	T-1¾	1.55	1.37	1.18
380	6.3	.04	.020	D	T-1¾	1.02	.90	.78
381	6.3	.20	.40	D	T-1¾	1.21	1.07	.92
382	14.0	.08	.30	D	T-1¾	1.04	.92	.79
386	14.0	.08	.30	B	T-1¾	1.46	1.29	1.12
387*	28.0	.04	.30	D	T-1¾	.61	.54	.47
388	28.0	.04	.30	B	T-1¾	1.26	1.11	.96

Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499	500-999
425	5.0	.50	2.3	H	G-4½	$0.80	$0.71	$0.61
502	5.1	.15	.60	H	G-4½	.32	.29	.25
503	5.1	.15	.60	J	G-4½	.39	.35	.30
509K	24.0	.18	2.8	E	G-6	.94	.83	.72
965	9.8	.50	6.0	H	T-4½	.94	.83	.72
1003	12.8	.94	15.0	K	B-6	.51	.45	.39
1004	12.8	.94	15.0	L	B-6	.58	.51	.44
1034	12.8	1.80	32.0	F	S-8	.68	.60	.52
	14.0	.51	4.0					
1073*	12.8	1.80	32.00	K	S-8	.58	.51	.44
1129*	6.4	2.63	21.00	K	S-8	.73	.65	.56
1130*	6.4	2.00	21.00	L	S-8	1.07	.95	.82
1133*	6.2	3.91	32.00	K	RP-11	1.45	1.28	1.11
1141*	12.8	1.44	21.00	K	S-8	.58	.51	.44
1142*	12.8	1.44	21.00	L	S-8	.73	.65	.56
1143*	12.5	2.00	32.00	K	RP-11	1.84	1.62	1.40
1156	12.8	2.10	32.0	K	S-8	.66	.59	.51
1157	12.8	2.10	32.0	F	S-8	.58	.51	.44
1184*	5.5	6.25	50.00	L	RP-11	2.11	1.86	1.61
1224	34.0	.16	3.8	E	G-6	1.46	1.29	1.12
1251*	28.0	.23	3.0	K	G-6	1.11	.98	.85
1252*	28.0	.23	3.0	L	G-6	1.11	.98	.85
1385*	28.0	.....	20W	K	R-12	5.08	4.49	3.89
1449	14.0	.20	2.0	H	G-3½	.32	.29	.25
1458	20.0	.25	4.2	H	G-5	.82	.72	.62
1471	12.0	.26	2.3	E	G-6	1.97	1.74	1.51
1483	6.0	.04	.10	H	G-4½	1.02	.90	.78
1487	14.0	.20	1.4	H	T-3¼	.49	.44	.38
1488	14.0	.15	1.5	J	T-3¼	.49	.44	.38
1490	3.2	.16	.20	J	T-3¼	.78	.69	.60
1493	6.5	2.80	23	L	S-8	2.72	2.40	2.08
1630	6.5	2.75	23.0	N	S-8	3.21	2.84	2.46
1705D	14.0	.08	.50	S	T-1¼	.73^	.65^	.56^
1728D	1.35	.06	.01	S	T-1¼	.60	.53	.46
1738	2.7	.06	.04	S	T-1¼	.65	.57	.49
1764D	28.0	.04	.34	M	T-1¼	.68	.60	.52
1767*	2.5	.20	.22	C	T-1¼	.94	.83	.72
1768*	6.0	.20	.60	C	T-1¼	1.22	1.08	.94
1783	2.5	.20	.22	S	T-1¼	.60	.53	.46
1813	14.4	.10	.86	J	T-3¼	.53	.47	.40
1815*	14.0	.20	1.4	J	T-3¼	.53	.47	.40
1816	13.0	.33	3.0	J	T-3¼	.39	.35	.30
1819*	28.0	.04	.34	J	T-3¼	.63	.56	.48
1820	28.0	.10	1.6	J	T-3¼	.63	.56	.48
1821	28.0	.17	3.5	H	T-3¼	1.82	1.61	1.39
1822	36.0	.10	2.5	J	T-3¼	1.17	1.04	.90
1828	37.5	.05	.65	J	T-3¼	.94	.83	.72
1829*	28.0	.07	1.0	J	T-3¼	.56	.50	.43
1835	55.0	.05	1.1	J	T-3¼	1.21	1.07	.92
1847	6.3	.15	.38	J	T-3¼	.36	.32	.27
1850	5.0	.09	.25	J	T-3¼	.82	.72	.62
1855	6.3	.80	3.6	J	T-4½	.121	1.07	.92
1869D	10.0	.014	.002	S	T-1¼	.85	.75	.65
1891	14.0	.24	2.0	J	T-3¼	.34	.30	.26
1892	14.4	.12	.75	J	T-3¼	.34	.30	.26
1893	14.0	.33	2.0	J	T-3¼	.34	.30	.26
2102D	18.0	.04	.15	S	T-1¾	.78	.69	.60
2107D	10.0	.04	.08	S	T-1¾	.82	.72	.62
2112	6.3	.20	.55	S	T-1¾	.83	.74	.64
2124	2.5	.35	.....	S	GTL-1¾	2.86	2.52	2.18
2158	3.0	.015	.003	S	T-1¾	1.07^	.95^	.82^
2162D	14.0	.088	.100	S	T-1¾	.87	.77	.66
2180	6.3	.04	.02	S	T-1¾	.68^	.60^	.52^
2181D	6.3	.20	.40	S	T-1¾	.77	.68	.59
2182D	14.0	.08	.30	S	T-1¾	.85	.75	.65
2185D	28.0	.04	.20	S	T-1¾	.78	.69	.60
2187D	28.0	.04	.30	S	T-1¾	.66	.59	.51

*Mean Spherical Candlepower is the measurement of the total integrated light output of the lamp operated at design voltage.

†At 5 volts. ‡Special, not illustrated. ***See following page for MS numbers.** §Single Contact. ^Min. qty. 500.

BASE STYLES FOR CHICAGO MINIATURE LAMPS



(A) Sub-Midget Flanged, (B) Midget Grooved, (C) Midget Screw, (D) Midget Flanged, (E) Candelabra, (F) DC Bayonet Index, (G) Miniature Flange, (H) Miniature Screw, (J) Miniature Bayonet, (K) SC Bayonet, (L) DC Bayonet, (M) SC Prefocus, (N) DC Prefocus, (P) Threaded Knurled, (Q) Bi-Pin, (R) Wedge, (S) Wire Terminal. (SC for Single Contact; DC for Double Contact.)

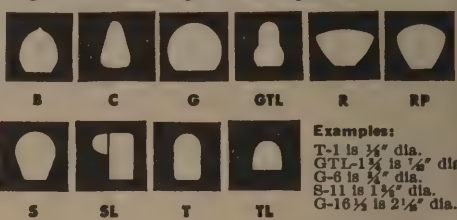
MINIATURE AND SUBMINIATURE LAMPS

Lamp No.	Design V	Design A	MSCP* Approx.	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499	500-999
313	28.0	.17	3.5	J	T-3¼	$0.56	$0.50	$0.43
334	28.0	.04	.340	B	T-1¾	1.12	.99	.86
335	28.0	.04	.34	C	T-1¾	1.22	1.08	.94
336	14.0	.08	.50	B	T-1¾	1.19	1.05	.91
345	6.0	.04	.03	D	T-1¾	1.24	1.10	.95
349	6.3	.20	.55	D	T-1¾	1.00	.89	.77
8-373	2.5	.35	.....	B	TL-1¾	4.00	3.53	3.06
8-374	2.5	.35	.....	S	TL-1¾	3.38	2.99	2.59
380	6.3	.04	.020	D	T-1¾	1.02	.90	.78
381	6.3	.20	.40	D	T-1¾	1.21	1.07	.92
382	14.0	.08	.30	D	T-1¾	1.04	.92	.79
399	28.0	.04	.30	C	T-1¾	1.45	1.28	1.11
8-428	5.0	.18	.35	D	T-1¾	7.99	7.05	6.11
634D	6.0	.20	.63	S	T-1¾	1.00	.89	.77
680*	5.0	.06	.03	S	T-1	1.24	1.10	.95
682*	5.0	.06	.03	A	T-1	2.13	1.88	1.63
683*	5.0	.06	.05	S	T-1	1.24	1.10	.95
685*	5.0	.06	.05	A	T-1	2.57	2.27	1.96
713*	5.0	.075	.09	S	T-1	1.28	1.13	.98
714*	5.0	.075	.09	A	T-1	2.57	2.27	1.96
718*	5.0	.115	.15	A	T-1	2.02	1.79	1.55
755	6.3	.15	.33	J	T-3¼	.48	.42	.36
757	28.0	.08	.62	J	T-3½	.77	.68	.59
965	9.8	.50	6.0	H	T-4½	.94	.83	.72
8-967	120	.025	.36	J	T-2	1.80	1.59	1.38
6803	5.0	.06	.03	S	T-¾	2.31	2.04	1.77
6833	5.0	.06	.05	S	T-¾	2.31	2.04	1.77
6839	28.0	.024	.15	A	T-1	4.15	3.66	3.17
7153	5.0	.115	.15	S	T-¾	2.26	2.00	1.73
7216*	5.0	.125	.22	S	T-1	2.94	2.60	2.25
7387	28.0	.04	.30	Q	T-1¾	.83	.74	.64
8610*	6.3	.20	.55	S	T-1¼	1.67	1.47	1.27
8627	28.0	.04	.32	S	T-1¼	2.13	1.88	1.63
8628*	6.0	.20	.63	D	T-1¼	3.44	3.03	2.63
8631*	1.35	.06	.006	D	T-1¼	2.40	2.12	1.83
8632	28.0	.04	.32	†	T-1¼	4.00	3.53	3.06
8635	28.0	.04	.32	‡	T-1¼	3.93	3.47	3.00
8640*	14.0	.08	.50	S	T-1¼	1.67	1.47	1.27
8666	5.0	.08	.15	S	T-1¾	4.27	3.77	3.26

*Mean Spherical Candlepower. †Silvered base. ‡Special midget flanged, not illus. §Special screw, not illus. *New vs. former No.: 7216 = CM8-715F1; 8610 = CM8-610; 8628 = CM8-628; 8631 = CM8-631; 8637 = CM8-637; 8640 = CM8-640; 8805 = CM8-805; 276 = 334LSV. ^Min. qty. 500.

BULB SHAPES AND SIZES

The bulb is the glass envelope which houses the lamp filament assembly, and contains the vacuum or gas seal. A letter and number identifies bulb shape and approximate bulb diameter in eighths of an inch. Popular bulb shapes are:



Examples:
T-1 is ⅛" dia.
GTL-1¾ is ⅛" dia.
G-6 is ¾" dia.
S-11 is 1⅜" dia.
G-16½ is 2⅛" dia.

CM7 SERIES BI-PIN LAMPS

Lamp No. CM7-	Design Volts	Design Amps	MSCP* Approx.	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499	500-999
7327	28.0	.04	.34	Q	T-1¾	$0.75	$0.66	$0.57
7328	6.0	.20	.60	Q	T-1¾	.78	.69	.60
7330	14.0	.08	.50	Q	T-1¾	.82	.72	.62
7838	2.7	.06	.04	Q	T-1¾	.87	.77	.66
7876	28.0	.06	.34	Q	T-1¾	.88	.78	.68

*Mean Spherical Candlepower.

STANDARD VOLTAGE LAMPS

Lamp No.	Design Volts	Design Watts	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499
6S6	120	6	E	S-6	$0.75	$0.66
6S6	130	6	E	S-6	.85	.75
6S6	145	6	E	S-6	1.97	1.74
6S6DC	120	6	L	S-6	1.21	1.07
6T4121	115-125	6	E	T-4½	2.26	2.00
7C7	115-125	7	E	C-7	.63	.56
10C7	115-125	10	E	C-7	1.09	.96
10S6C	230	10	E	S-6	2.21	1.95

^Min. qty.500.

NEON GLOW LAMPS

Cold-cathode gas discharge type lamps. Neon gas ionizes and glows when voltage is applied.

Lamp No. NE-§	Design Volts	Design W	A	Base Fig.	Bulb	Net Ea., Lots of 10-99	100-499	500-999
2(A1A)	105-125	1/17	0.5	S	T-2	$0.37	$0.33	$0.29
2D(C7A)*	105-125	1/12	0.7	D‡	T-2	2.18	1.92	1.66
2H(C2A)	105-125AC	1/4	1.9	S	T-2	.37	.33	.29
51(B1A)	105-125	1/25	0.3	J	T-3½	.83	.74	.64
51H(B2A)	105-125AC	1/7	1.2	J	T-3¼	.83	.74	.64

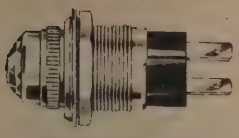
§Numbers in parentheses are ASA (American Standards Association) numbers. ‡Single contact.

★MILITARY (MS) EQUIVALENTS

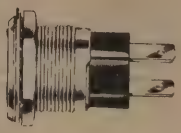
Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number	Lamp No.	MS Number
PR-3	15610-2	51	15573-1	90	15569-4	313	25231-313	1141	35478-4	1815	15571-8	685‡	24515-685‡
PR-6	15610-1	53	15573-3	93	35478-93	323	25236-323	1142	15584-4	1819	15571-6	713‡	24367-713‡
13	15611-1	55	15572-1	94	15584-2	327	25237-327	1143	15565-3	1829	25231-1829	714‡	24515-714‡
14	15611-3	64	15569-1	131	15611-4	328	25237-328	1184	15564-1	10C7DC	16123	715‡	24367-715‡
27	15587-1	67	15570-4	222	28798-222	387	18209	1251	*	680‡	24367-680‡	718‡	24515-718‡
40	15536-4	68	15569-6	301	25238-301	1073	35478-1073	1252	15569-7	682‡	24515-682‡	NE2D	
44	15571-1	82	15569-3	304	15569-8	1129	35478-1129	1385	35480-2	683‡	24367-683‡	(C7A)	25257-C7A (NE-2D)
45	15571-11	87	35478-87	305	35478-305	1130	15584-3	1767	15612-3				
47	15571-2	88	15584-1	307	35478-307	1133	15565-1	1768	15612-1				

*15570-1251. ‡Also AS15 (aged and selected with candlepower indicated) versions; e.g., 680AS15 = 24367-680AS15.

MINIATURE INDICATOR FOR PSB BULB 11/16" MOUNTING HOLE



Complete Assembly



Base Assembly



Type 81 Faceted



Type 135 Cylindrical (Translucent)



Type 52 Stovepipe (Internally Fluted Transparent)



Type 95 Stovepipe (Smooth Face Translucent)

Accommodates T-2 incandescent bulb with telephone slide base (PSB type) in a range of voltages from 6 to 120 volts. Uses any of four styles of high temperature Lexan caps in various colors. Phenolic housing, white nickel finish. Rated 75 watts, 125 volts. Solder terminals. Electrical contact can be made with AMP connector No. 42198-2. Mounts in 11/16" diam. hole. 1 27/32" overall length.

BASE HOUSING

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
81-1059-01-102	$2.35	$1.98	$1.72	$1.58

LENSES FOR HOUSING ABOVE

Color	Type Numbers: Translucent Cylindrical	Transparent Fluted	Translucent Smooth
Red	135-3271	52-3191	95-3171
Green	135-3272	52-3192	95-3172
Amber	135-3273	52-3193	95-3173
Blue	135-3274	52-3194	95-3174
White	135-3275	52-3195	95-3175
Yellow	135-3276	52-3196	95-3176
Clear	...	52-3197	...

Any Type Lens—Net Each, Lots of 1-9 ..$0.63; 10-24 ..$0.53; 25-99 .....$0.45; 100-249 .....$0.42

SERIES 81 TRANSPARENT FACETED LENSES FOR HOUSING ABOVE

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
81-0431-100	Red	$0.81	$0.72	$0.64	$0.56
81-0432-100	Green	.81	.72	.64	.56
81-0433-100	Amber	.81	.72	.64	.56
81-0434-100	Blue	.81	.72	.64	.56
81-0435-100	White	.81	.72	.64	.56
81-0436-100	Yellow	.81	.72	.64	.56
81-0437-100	Clear	.81	.72	.64	.56

PRESS-TO-TEST ASSEMBLY FOR 1" MOUNTING HOLE

Mounts in 1" clearance hole. Overall size approximately 1 1/4" × 3 1/4". Three rugged binding head screw terminals; 2 for "normal" circuit and 1 for "test" circuit. Uses S6 bulbs with candelabra base. Supplied less lamp. Transparent backfrosted lens.



Conforms to MIL Specs.

No. 820-2701-01-502 Assembly—Net Each, Lots of 1-9 ...$15.47 10-24 .....$12.29; 25-99 .....$10.43; 100-249 ..... $8.90

LENS CAPS FOR 820- HOLDERS

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
820-0111-500	Red	$3.80	$3.19	$2.80	$2.23
820-0112-500	Green	3.80	3.19	2.80	2.23
820-0113-500	Amber	3.80	3.19	2.80	2.23
820-0117-500	Clear	3.80	3.19	2.80	2.23

PRESS-TO-TEST ASSEMBLY FOR 5/8" MOUNTING HOLE



Built-in bulb testing device. Units light when pressed, if lamp is satisfactory. Three solder lugs. 180° visible light beam for daylight use. Indirect "halo" light for night use. Less lamps. Accommodates T-3 1/4 lamp.

WITH MECHANICAL SHUTTER DIMMER

Type No.	Lens Diam.	MIL Type No.	Lens Color
804-1710-0331-504	5/8"	MS25331-2	Red
804-1710-0332-504	5/8"	MS25331-3	Green
804-1710-0333-504	5/8"	MS25331-4	Amber

WITHOUT DIMMER

803-1710-0331-504	1/2"	MS25331-6	Red
803-1710-0332-504	1/2"	MS25331-7	Green
803-1710-0333-504	1/2"	MS25331-8	Amber
806-1710-0431-504	1"	.....	Red
806-1710-0432-504	1"	.....	Green
806-1710-0433-504	1"	.....	Amber

	Net Each, Lots of 1-9	10-24	25-99	100-249
804 Series	$8.89	$7.30	$6.20	$5.41
803 Series	7.70	6.17	5.15	4.44
806 Series	8.90	7.05	5.93	5.13

PRESS-TO-TEST ASSEMBLIES FOR 15/32" MOUNTING HOLE

Accommodates T-1 3/4 lamp. QPL listed. Mounts from back of panel. Marking is die-stamped and filled on all lens caps.

Dimming: MS No.	Dimming: Type No. 801-1030-	Non-Dimming: MS No.	Non-Dimming: Type No. 800-1030-	Lens Color
25041-1	0337-504	25041-5	0337-504	Clear
25041-2	0331-504	25041-6	0331-504	Red
25041-3	0332-504	25041-7	0332-504	Green
25041-4	0333-504	25041-8	0333-504	Amber
25041-10	0334-504	25041-11	0334-504	Blue

	Net Each, Lots of 1-9	10-24	25-99	100-249
801 Series	$7.28	$6.09	$5.24	$4.59
800 Series	6.09	4.92	4.24	3.64

SERIES 812

Meet or exceed requirements of MIL-L-7961B and MIL-L-3661. Three terminals. "Press-to-test"" marking is die-stamped and filled on the flange nut. Accommodates T-1 3/4 lamp. Mounts from back of panel in 15/32" hole.



BASE ASSEMBLY

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
812-1030-09-506	$4.58	$3.66	$3.10	$2.65

NON-DIMMER TRANSLUCENT 1/2" STOVEPIPE LENS CAP

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
812-0975	White	$1.96	$1.63	$1.38	$1.21
812-0971	Red	1.96	1.63	1.38	1.21
812-0972	Green	1.96	1.63	1.38	1.21
812-0973	Amber	1.96	1.63	1.38	1.21



Solder Terminals



Screw Terminals

NEON

SERIES 95 HOLDERS FOR T-3 1/4 NEON LAMPS

STANDARD BRIGHTNESS

Meet MIL-L-3661. Use B1A (NE-51) neon lamp. Has built-in 56K resistor for use on 105-125 VAC or VDC. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

Type No.	Terms.	Net Each, Lots of 1-9	10-24	25-99	100-249
BLACK NICKEL FINISH					
95-0408-09-241	Solder	$2.70	$2.18	$1.90	$1.76
95-1308-09-241	Screw	2.92	2.34	2.07	1.88
POLISHED CHROME FINISH					
95-0408-09-341	Solder	$2.70	$2.18	$1.90	$1.76
95-1308-09-341	Screw	2.92	2.34	2.07	1.88

HIGH BRIGHTNESS

Meet MIL-L-3661. Use B2A (NE-51H) neon lamp. Has built-in 22K resistor for use on 110-125 VAC. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

BLACK NICKEL FINISH					
95-0463-09-211	Solder	$2.70	$2.18	$1.90	$1.76
95-1363-09-211	Screw	2.92	2.34	2.07	1.88
POLISHED CHROME FINISH					
95-0463-09-311	Solder	$2.70	$2.18	$1.90	$1.76
95-1363-09-311	Screw	2.92	2.34	2.07	1.88

Meet MIL-L-3661. Use B2A (NE-51H) neon lamp. Has built-in 68K resistor for use on 210-250 VAC or VDC.

POLISHED CHROME FINISH					
95-9463-09-361	Solder	$2.70	$2.18	$1.90	$1.76
95-9363-09-361	Screw	2.92	2.34	2.07	1.88

COMMERCIAL TYPE NEONS

Not MIL. Phenolic body 2 1/16" long, mounts in 11/16" clearance hole.

WHITE NICKEL FINISH					
95-9108-09-142*	Solder	$2.08	$1.76	$1.52	$1.36
95-9163-09-112†	Solder	2.08	1.76	1.52	1.36

*Has built-in 56K resistor for use on 105-125 VAC or VDC. Uses B1A (NE-51) lamp. †Has built-in 22K resistor for use on 110-125 VAC. Uses B2A (NE-51H) lamp.

INCANDESCENT

INDICATOR USING T-3 1/4 INCANDESCENT LAMPS

Meet MIL-L-3661. Use T-3 1/4 incandescent lamp with miniature bayonet base. For use on 2 to 55 volts. 2 1/16" long, mounts in 11/16" clearance hole. Less lamp.

BLACK NICKEL FINISH					
95-0410-09-201	Solder	$2.11	$1.80	$1.62	$1.44
95-1310-09-201	Screw	2.27	1.97	1.69	1.56
POLISHED CHROME FINISH					
95-410-09-301	Solder	$2.11	$1.80	$1.62	$1.44
95-1310-09-301	Screw	2.27	1.97	1.69	1.56

COMMERCIAL TYPE INCANDESCENT

Not MIL. No resistor, for use on 2 to 55 VAC. Use T-3 1/4 incandescent lamp. Phenolic body 2 1/16" long mounts in 11/16" clearance hole. Less lamp.

WHITE NICKEL FINISH					
95-9110-09-102	Solder	$1.72	$1.52	$1.31	$1.16

LENSES FOR ABOVE HOLDERS

Lens Color	Short Stovepipe Fluted	Short Stovepipe Plain	Cylindrical
Red	52-0991	95-0931	135-1431
Green*	52-0992	95-0932	135-1432
Amber	52-0993	95-0933	135-1433
Blue*	52-0994	95-0934	135-1434
Clear	52-0997	95-0937	135-1437
White	52-0995	95-0935	135-1435

*Not recommended for use with neon lamps.

Any Type Lens—Net Each, Lots of 1-9 .....$0.47; 10-24 .....$0.39; 25-99 .....$0.35; 100-249 .....$0.29



Type 135 Cylindrical (Translucent)



Type 95 Stovepipe (Smooth Face Translucent)



Type 81 Faceted



Type 52 Stovepipe (Internally Fluted Transparent)

INCANDESCENT

SERIES 81 HOLDERS

Use T-3 1/4 incandescent lamp. Has no resistor. Rated from 2 to 120 VAC or VDC. Meets MIL specs., mounts in 11/16" hole in panels up to 3/8" thick. Does not include lamp or lens.

Type No.	Terms.	Net Each, Lots of 1-9	10-24	25-99
BLACK NICKEL FINISH				
81-0410-01-201	Solder	$2.24	$1.91	$1.65
WHITE NICKEL FINISH				
81-0410-01-102	Solder	$1.80	$1.56	$1.36
81-9110-01-102*	Solder	1.80	1.61	1.41
CHROME FINISH				
81-0410-01-301	Solder	$2.24	$1.91	$1.65
81-1310-01-301	Screw	2.44	1.98	1.71

*Commercial type.

SERIES 81 LENS ASSEMBLIES

Screw-in lenses. Convex lenses are back frosted except (*) unfrosted. Faceted lenses are unfrosted.

Lens Color	Type Numbers: Polished Chrome† Convex Lens	Polished Chrome† Faceted Lens	White Nickel Convex Lens	White Nickel Faceted Lens
Red	81-0111-300	81-0431-300	81-0111-100	81-2131-100
Green	81-0112-300	81-0432-300	81-0112-100	81-2132-100
Amber	81-0113-300	81-0433-300	81-0113-100	81-2133-100
White	81-0135-300*	81-0435-300	81-0135-100*	81-2135-100
Clear	81-0117-300	81-0437-300	81-0117-100	81-2137-100

*Unfrosted. †To order black nickel finish, change suffix to 200.

Finish	Net Each, Lots of 1-9	10-24	25-99	100-249
Chrome or black nickel	$0.97	$0.86	$0.72	$0.66
White nickel	.81	.72	.64	.56

LIGHT SHIELD INDICATOR

Uses T-3 1/4 incandescent lamp with miniature bayonet base. Rated 2 to 55 VAC or VDC. Mounts in 11/16" hole. Light shield cap has 1/2" × 1/2" opening. Polished chrome finish.

Type No.	Terms.	Net Each, Lots of 1-9	10-24	25-99	100-249
21-0410-29-301	Solder	$2.24	$1.91	$1.69	$1.50
21-1310-29-301	Screw	2.48	2.07	1.83	1.66

LIGHT SHIELD CAP



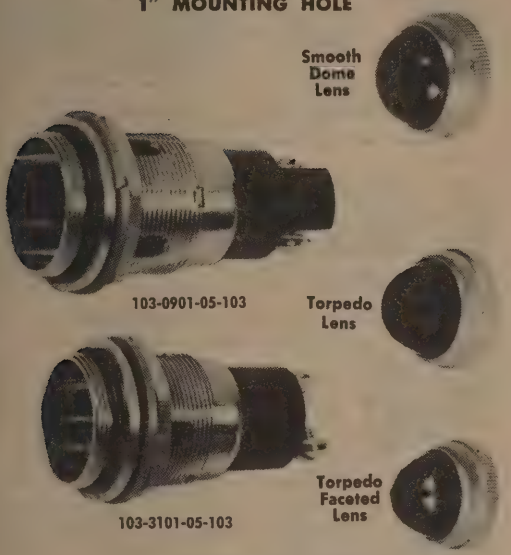
Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
21-2900-300	$1.99	$1.76	$1.53	$1.40

PILOT BULB REMOVER

Molded of rubber. Have two hollow ends which stretch over and engage bulbs tightly. Type 506-0045 fits T-3 1/4 and T-4 1/2 bulbs. Type 506-0073 fits T-3 1/4 and S6 candelabra screw base bulbs.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
506-0045	$0.78	$0.69	$0.63	$0.53
506-0073	.74	.53	.44	.37

LARGE OIL-TIGHT INDICATOR FOR 1" MOUNTING HOLE



INCANDESCENT BASE

Enclosed assemblies for heavy-duty industrial applications. Gasketed lens. Lens gives 180° light spread. Uses 6S6 incandescent (bayonet or screw mount) lamp. Supplied without lamp. Unit measures 1 3/16" × 1 7/8".

Type No.	Terminal Screw	Net Each, Lots of 1-9	10-24	25-99	100-249
FOR 6S6 SCREW BASE LAMPS					
103-0901-05-103	Side	$6.01	$5.31	$4.60	$4.17
103-3101-05-103	Fixed	5.03	4.43	3.85	3.47
FOR 6S6/DC BAYONET BASE LAMPS					
103-3202-05-103	Fixed	$5.69	$5.03	$4.36	$3.93
103-3502-05-103	Moveable	5.74	5.08	4.38	3.97
FOR 10C7/DC BAYONET BASE LAMPS					
103-3227-05-103	Fixed	$5.97	$5.27	$4.57	$4.13
103-3527-05-103	Moveable	6.01	5.31	4.60	4.17

NEON BASE

For use with the B7A (NE-45) candelabra screw base lamp. Lamp has built-in resistor. Overall size approximately 1 3/16" × 2 7/32". Comes with split lockwasher and hex nut. Less lamp. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
103-3114-05-103	$4.80	$4.25	$3.67	$3.38

LENS CAPS FOR HOLDERS ABOVE DOME SHAPED LENSES

Lens Color	Unfrosted Type No.	Back Frosted Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
Red	103-1231-403	103-1211-403	$2.28	$1.89	$1.64	$1.41
Green*	103-1232-403	103-1212-403	2.28	1.89	1.64	1.41
Amber	103-1233-403	103-1213-403	2.28	1.89	1.64	1.41
White	.....	103-1235-403	2.28	1.89	1.64	1.41
Clear	103-1237-403	.....	2.28	1.89	1.64	1.41

TORPEDO AND TORPEDO FACETED LENSES

Lens Color	Torpedo Faceted Unfrosted Type No.	Torpedo Unfrosted Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
Red	103-1331-403	103-0531-403	$2.28	$1.89	$1.64	$1.41
Green*	103-1332-403	103-0532-403	2.28	1.89	1.64	1.41
Amber	103-1333-403	103-0533-403	2.28	1.89	1.64	1.41
White	103-1335-403	103-0535-403	2.28	1.89	1.64	1.41
Clear	103-1337-403	103-0537-403	2.28	1.89	1.64	1.41

*Not recommended for use with neon lamps.

MINIATURE OIL-TIGHT INDICATOR FOR 11/16" MOUNTING HOLE



INCANDESCENT BASE

Meets MIL-L-3661. Uses T-3 1/4 incandescent lamp with miniature bayonet base. Rated 2 to 55 volts. Mounts in 11/16" clearance hole. Less lamp.

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
125-0410-11-103	Solder	$3.06	$2.70	$2.35	$2.15
125-1310-11-103	Screw	3.22	2.87	2.49	2.28

NEON BASE

Uses B1A (NE-51) neon lamp. Has built-in 56K resistor for use on 105-125 VAC or VDC. Mounts in 11/16" clearance hole. Less lamp.

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
125-0408-11-143	Solder	$3.56	$3.17	$2.75	$2.50
125-1308-11-143	Screw	3.84	3.41	2.96	2.71

HIGH BRIGHTNESS NEON BASE

Uses B2A (NE-51H) neon lamp. Has built-in 22K resistor for use on 110-125 VAC, bright light. Mounts in 11/16" clearance hole. Less lamp.

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
125-0463-11-113	Solder	$3.56	$3.17	$2.75	$2.50
125-1363-11-113	Screw	3.84	3.41	2.96	2.71

HIGH BRIGHTNESS NEON BASE

Uses B2A (NE-51H) neon lamp. Has built-in 68K resistor for use on 210-250 VAC or VDC. Mounts in 11/16" clearance hole.

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
125-9463-11-163	Solder	$3.56	$3.17	$2.75	$2.50
125-9363-11-163	Screw	3.84	3.41	2.96	2.71

STOVEPIPE LENS CAPS FOR HOLDER ABOVE

Lens Color	Unfrosted Type No.	Back Frosted Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
Red	125-1131-403	125-1111-403	$1.65	$1.39	$1.22	$1.10
Green*	125-1132-403	125-1112-403	1.65	1.39	1.22	1.10
Amber	125-1133-403	125-1113-403	1.65	1.39	1.22	1.10
White	.....	125-1135-403	1.65	1.39	1.22	1.10
Clear	125-1137-403	.....	1.65	1.39	1.22	1.10

STOVEPIPE LENS INTERNALLY FLUTED

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
125-1191-403	Red	$1.65	$1.39	$1.22	$1.10
125-1192-403	Green*	1.65	1.39	1.22	1.10
125-1193-403	Amber	1.65	1.39	1.22	1.10
125-1195-403	White	1.65	1.39	1.22	1.10
125-1197-403	Clear	1.65	1.39	1.22	1.10

*Not recommended for use with neon lamps.

LARGE INDICATOR LIGHTS
1" MOUNTING HOLE
FRICTION FIT CAP SERIES—U.L. APPROVED



Base
31-4001-01-102



Base
31-0901-01-102



Base
31-3101-01-102



Convex Lens
32-0111-300



Faceted Lens
32-0431-300

U.L. APPROVED
INDICATOR LIGHT ASSEMBLIES

Candelabra socket; lamp removable from front. Requires 1" clearance hole for mounting. Less lamp. Series 31-3101, 31-4001 and 31-0901 indicator lights are for use with S6 bulb in 6 to 250-volt circuits. Less lamp. Order holder and lens separately to obtain necessary parts for self-assembly of complete unit. For example: 32-0111-300 lens plus 31-3101-102 holder becomes 32-3101-0111-302 assembly.

HOLDERS

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
31-0901-01-102	Side screw	$3.48	$3.08	$2.66	$2.40
31-3101-01-102	Screw	2.93	2.60	2.26	2.02
31-4001-01-102	Solder	2.76	2.45	2.11	1.91

LENS CAPS FOR ABOVE HOLDERS

Lens Color	Convex Type No.	Faceted Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
Red	32-0111-300	32-0431-300	$1.38	$1.21	$1.07	$0.97
Green	32-0112-300	32-0432-300	1.38	1.21	1.07	.97
Amber	32-0113-300	32-0433-300	1.38	1.21	1.07	.97
White	32-0135-300	32-0435-300	1.38	1.21	1.07	.97
Clear	32-0137-300	32-0437-300	1.38	1.21	1.07	.97

SCREW-ON CAP SERIES
CONVEX AND FACETED LENS SHAPES

Candelabra socket; lamp is removable from front. Requires 1" clearance hole for mounting. Less lamp. Accommodates S6 bulb. Order cap and base separately. Polished chrome finish.

HOLDERS

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-249
51-0901-01-301	Side screw	$4.25	$3.76	$3.26	$2.94
51-3101-01-301	Screw	3.48	3.08	2.66	2.43
51-4001-01-301	Solder	3.32	2.92	2.53	2.29

LENS CAPS FOR ABOVE HOLDERS

Lens Color	Convex Type No.	Faceted Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
Red	51-0111-300	51-0431-300	$2.38	$2.10	$1.84	$1.66
Green	51-0112-300	51-0432-300	2.38	2.10	1.84	1.66
Amber	51-0113-300	51-0433-300	2.38	2.10	1.84	1.66
White	51-0135-300	51-0435-300	2.38	2.10	1.84	1.66
Clear	51-0137-300	51-0437-300	2.38	2.10	1.84	1.66

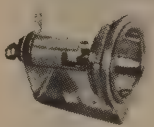
HOLDERS

Type No.	Term.	Net Each, Lots of 1-9	10-24	25-99	100-2
80-0901-05-301	Side screw	$4.05	$3.60	$3.12	$2.8
80-3101-05-301	Screw	3.42	3.06	2.64	2.4
80-4001-05-301	Solder	3.25	2.87	2.50	2.2

SCREW-ON CAPS TORPEDO-SHAPED FOR ABOVE HOLDERS

Lens Color	Unfrosted Type No.	Back Frosted Type No.	Net Each, Lots of 1-9	10-24	25-99	10 24
Red	80-0531-300	80-0511-300	$1.77	$1.61	$1.39	$1
Green	80-0532-300	80-0512-300	1.77	1.61	1.39	1
Amber	80-0533-300	80-0513-300	1.77	1.61	1.39	1
White	.....	80-0535-300	1.77	1.61	1.39	1
Clear	80-0537-300	.....	1.77	1.61	1.39	1

LARGE OPEN-TYPE INDICATOR
1" MOUNTING HOLE



Brass jewel holders. U
T-3 1/4 bayonet base or
candelabra base bulb. R
quires 1" mounting ho
Less lamp. Use Series
Lens Caps listed at left.

Type No.	Net Each, Lots of 1-9	10 24	25-99	100-2
502-3241-102	$1.82	$1.54	$1.36	$1.2
502-3214-102†	2.07	1.85	1.67	1.5

*T-3 1/4 bayonet base. †S6 candelabra base.



Accommodates faceted je
els in holder. Candelab
socket for S6 lamp. L
lamp. Use Series 32 L
Caps listed at left.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-2
502-3228-102	$2.21	$1.91	$1.66	$1.5

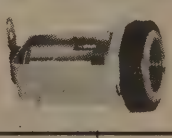
MINIATURE OPEN-TYPE INDICATOR
11/16" MOUNTING HOLE



Miniature screw or bayo
base socket assemblies. U
faceted or convex jewe
Mount in 11/16" hole. Bu
removable from front. Wi
tinned solder lugs. Uses T
1/4 lamp. Less lamp.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-2
502-8136-102*	$1.48	$1.22	$1.04	$0.8
502-8137-102‡	1.48	1.22	1.04	.8

*Bayonet base. ‡Screw base.



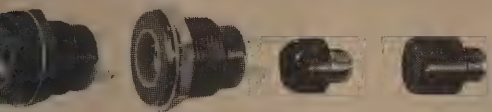
Uses faceted or convex je
els. Requires 11/16" mou
ing hole. Designed for pa
els up to 1/4" thick. W
mounting washers. Uses T
1/4 lamp. Less lamp. Tinn
lugs.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-2
502-8140-100	$2.39	$2.25	$2.12	$1.9

1/2" DIAMETER LENS CAPS FOR ABOVE HOLDERS

Lens Color	Faceted Type No.	Convex Frosted Type No.	Net Each, Lots of 1-9	10-24	25-99	10 24
Red	81-2131-100	81-0111-100	$0.81	$0.72	$0.64	$0
Green	81-2132-100	81-0112-100	.81	.72	.64	
Amber	81-2133-100	81-0113-100	.81	.72	.64	
White	81-2135-100	81-0135-100*	.81	.72	.64	
Clear	81-2137-100	81-0137-100	.81	.72	.64	

*Not frosted.



ront or Back Mounting | Front Mounting | Stovepipe Lens | Cylindrical Lens

INCANDESCENT INDICATOR LIGHTS TWO-TERMINAL—FULLY INSULATED

eet MIL requirements. Phenolic insulated. Lens cap assembly screws from front of panel for easy replacement of lamp. wo solder terminals provided for electrical connections. nti-rotation (locked) construction provides secure locking of sembly to panel. Lenses molded of high heat plastic. Use -1 3/4 midget flange base lamp rated from 1.35 to 28 volts. rder holder and lens separately to obtain necessary parts r self-assembly of complete unit. Less lamp.

FRONT MOUNTING HOLDERS

Type No.	Mtg. Hole	Net Each, Lots of 1-9	10-24	25-99	100-249
1-5030-09-201	17/32"	$2.57	$2.01	$1.67	$1.44
1-8430-09-201	15/32"	3.05	2.37	2.00	1.72

FRONT OR BACK MOUNTING HOLDERS

1-3830-09-201	15/32"	$2.57	$2.01	$1.67	$1.44

LENS CAPS FOR ABOVE HOLDERS

Lens Color	Type Nos. Stovepipe Translucent	Stovepipe Transparent	Flat Cylindrical Translucent	Flat Cylindrical Transparent
ed	101-0971	101-0931	140-1471	140-1431
reen	101-0972	101-0932	140-1472	140-1432
mber	101-0973	101-0933	140-1473	140-1433
hite	101-0975	101-0935	140-1475	140-1435

ny Lens—Net Each, Lots of 1-9 .....$0.67; -24 .....$0.52; 25-99 .....$0.43; 100-249.....$0.35

TWO TERMINAL—MS25256



Uses T-1 3/4 midget flange base incandescent lamps rated from 1.35 to 28 volts. Front panel mounting in 15/32" clearance hole. Less lamp.

Type No.*	MIL Std. Dwg. No.	Color	Net Each, Lots of 1-9	10-24	25-99
2-8430-0933-502	MS25256-2	Yellow	$3.07	$2.45	$2.07
2-8430-0932-502	MS25256-4	Green	3.07	2.45	2.07
2-8430-0931-502	MS25256-6	Red	3.07	2.45	2.07
2-8430-0937-502	MS25256-8	Clear	3.07	2.45	2.07
2-8430-0975-502	MS25256-10	White	3.07	2.45	2.07
2-8430-0934-502	MS25256-12	Blue	3.07	2.45	2.07

Anti-rotation construction.

NEON INDICATOR LIGHTS

C7A (NE-2D) NEON SUB-MINIATURE MS25257

ses T-2 neon glow lamp. Has built-in 62K sistor for use on 105-125 VAC or VDC. ove pipe lens in plastic with 180° lens read. Mounting bushing is aluminum with ack anodized finish. Steel internal tooth ckwasher and hex mounting nut are cad- ium plated and coated with iridite. Termi- als are hot-tinned brass with elongated ots. Less lamp. Size, 1 1/2" × 5/8". Front ounting in 15/32" clearance hole.



7-8836-0933-552	MS25257-2	Yellow	$5.16	$4.05	$3.40
7-8836-0931-552	MS25257-4	Red	5.16	4.05	3.40
7-8836-0937-552	MS25257-6	Clear	5.16	4.05	3.40

SERIES 137-8864 HOLDERS

or bright light when used with C9A (NE-2J) neon lamp. Has ilt-in 22K resistor for use on 110-125 VAC. Black anodized nish, aluminum bushing, steel hardware. Less lamp.

HOLDERS

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
7-8864-09-512	$4.49	$3.53	$2.97	$2.52
7-8864-09-532†	4.49	3.53	2.97	2.52

Has 33K resistor.

LENS CAPS FOR ABOVE HOLDERS

ype No.	Lens Color	Net Each, Lots of 1-9	10-24	25-99	100-249
7-0931	Red	$0.67	$0.52	$0.43	$0.35
7-0933	Amber	.67	.52	.43	.35
7-0937	Clear	.67	.52	.43	.35

INCANDESCENT SUB-MINIATURE INDICATORS WATER-TIGHT—TWO-TERMINAL

With retained "O" ring seal. Front mounting in 15/32" clearance hole. Takes T-1 3/4 midget flange base incandescent lamps rated from 1.35 to 28 volts. Lugs are hot-tinned brass. Lockwasher and hex nut supplied. Less lamp.

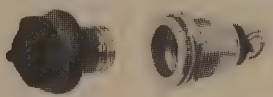
HOLDER

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
177-8430-09-503	$2.77	$2.23	$1.89	$1.66

LENS CAPS FOR ABOVE HOLDER

Lens Color	Type Nos. Transparent	Translucent	Net Each, Lots of 1-9	10-24
Red	177-0931-003	177-0971-003	$1.19	$0.95
Green	177-0932-003	177-0972-003	1.19	.95
Amber	177-0933-003	177-0973-003	1.19	.95
Blue	177-0934-003	177-0974-003	1.19	.95
White	177-0935-003	177-0975-003	1.19	.95
Yellow	177-0936-003	177-0976-003	1.19	.95
Clear	177-0937-003	.....	1.19	.95

SERIES 270 TRANSLUCENT PANEL EDGE



For MIL-P-7788 plastic plate panels. Mounts in 15/32" clearance hole. Less lamp. Uses T-1 3/4 lamp. Overall size, 1 7/16". Order separate base and cap.

BASE ASSEMBLIES

Type No.	Terms.	Net Each, Lots of 1-9	10-24	25-99	100-249
270-1830-702	Screw	$1.57	$1.26	$1.07	$0.95
270-1930-702	Solder	1.16	1.01	.84	.76

LENS CAP ASSEMBLIES

Type No.	Filter Color	Net Each, Lots of 1-9	10-24	25-99	100-249
270-0111	Red	$1.16	$0.86	$0.71	$0.61
270-0171	Clear	1.16	.86	.71	.61

SUB-SUB-MINIATURE INDICATOR LIGHTS



MS25446. T-1 filament lamp in plastic cap. Flexible 6" wire leads. Requires 0.193" mounting hole. Lens cap diam. 7/32". Lamp rating, 5 volts at 0.06 amps, 60,000 hour life; 6.3 volts at 0.07 amps, 6000 hour life. Sealed unit with non-replaceable lamp.

Type No.	MIL Spec.	Color	Net Each, Lots of 1-9	10-24	25-99
252-9951-0971	MS25446-4	Red	$4.74	$4.38	$4.05
252-9951-0972	MS25446-3	Green	4.74	4.38	4.05
252-9951-0973	MS25446-6	Amber	4.74	4.38	4.05
252-9951-0974	MS25446-2	Blue	4.74	4.38	4.05
252-9951-0975	MS25446-5	White	4.74	4.38	4.05
252-9951-0937	MS25446-7	Clear	4.74	4.38	4.05

NEON WATER-TIGHT TWO-TERMINAL INDICATORS

Series 181-8864 and 181-8836 Holders. Have built-in 22K or 62K resistor for use on 105-125 VAC or VDC. Series has retained "O" ring seal for water-tight construction. Less lamp.

HOLDERS

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
181-8836-09-553	$5.12	$4.07	$3.50	$2.99
181-8864-09-513*	5.12	4.07	3.50	2.99

*Has 22K resistor.

LENS FOR ABOVE HOLDERS

Type No.	Lens Color	Net Each, Lots of 1-9	10-24	25-99	100-249
181-0931-003	Red	$1.16	$0.96	$0.81	$0.69
181-0935-003	White	1.16	.96	.81	.69
181-0937-003	Clear	1.16	.96	.81	.69

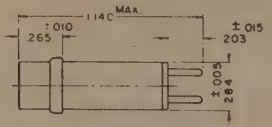


Fig. 1. Short Cylindrical Lens

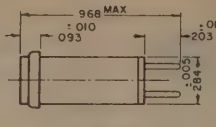


Fig. 2. Flat Lens

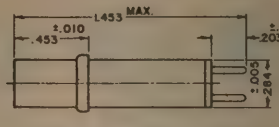


Fig. 3. Long Cylindrical Lens

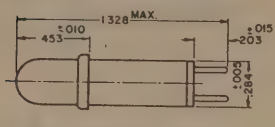


Fig. 4. Stovepipe Lens

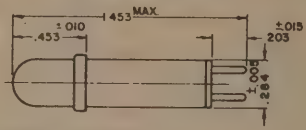


Fig. 5. Stovepipe Lens

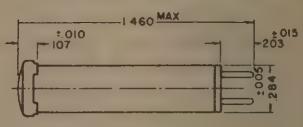


Fig. 6. Plano-convex Lens

NEON CARTRIDGES

Neon lamps with lower series resistor values offer the best indication with a minimum life of 5K hours, while 25K hours can be expected with higher resistor values. The high brightness types offer constant light output through life and 5 times the brightness of standard neons.

STANDARD BRIGHTNESS 105-125 VAC OR VDC (Fig. 5)

Type No.	Lamp	Built-in Resistor	Lens Color	Net Ea., Lots of 1-9	Net Ea., Lots of 10-24
507-4537-0931-640	A1B	56K	Red	$3.04	$2.37
507-4537-0933-640	A1B	56K	Amber	3.04	2.37
507-4537-0935-640	A1B	56K	White	3.04	2.37
507-4537-0937-640	A1B	56K	Clear	3.04	2.37

HIGH BRIGHTNESS 110-125 VAC (Fig. 5)

507-4538-0931-610	A1C	22K	Red	$3.04	$2.37
507-4538-0933-610	A1C	22K	Amber	3.04	2.37
507-4538-0935-610	A1C	22K	White	3.04	2.37
507-4538-0937-610	A1C	22K	Clear	3.04	2.37

STANDARD BRIGHTNESS 105-125 VAC OR VDC (Fig. 3)

Type No.	Lamp	Built-in Resistor	Lens Color	Net Ea., Lots of 1-9	Net Ea., Lots of 10-24
507-4537-1531-640	A1B	56K	Red	$3.04	$2.37
507-4537-1533-640	A1B	56K	Amber	3.04	2.37
507-4537-1535-640	A1B	56K	White	3.04	2.37
507-4537-1537-640	A1B	56K	Clear	3.04	2.37

HIGH BRIGHTNESS 110-125 VAC (Fig. 3)

507-4538-1531-610	A1C	22K	Red	$3.04	$2.37
507-4538-1533-610	A1C	22K	Amber	3.04	2.37
507-4538-1535-610	A1C	22K	White	3.04	2.37
507-4538-1537-610	A1C	22K	Clear	3.04	2.37

INCANDESCENT LAMP CARTRIDGES

TRANSLUCENT 6 V, 0.2 A (Fig. 1)

Type No.	C.P.	Life Hours	Lens Color	Net Ea., Lots of 1-9	Net Ea., Lots of 10-24
507-3906-1471-600	.60	1000	Red	$2.22	$1.98
507-3906-1472-600	.60	1000	Green	2.22	1.98
507-3906-1473-600	.60	1000	Amber	2.22	1.98
507-3906-1475-600	.60	1000	White	2.22	1.98

TRANSLUCENT 6.3 V, 0.2 A (Fig. 4)

507-3909-0971-600	.40	20,000	Red	$2.43	$2.12
507-3909-0972-600	.40	20,000	Green	2.43	2.12
507-3909-0973-600	.40	20,000	Amber	2.43	2.12
507-3909-0975-600	.40	20,000	White	2.43	2.12

TRANSPARENT 10 V, 0.14 A (Fig. 1)

507-3910-1431-600	.004	50,000	Red	$2.43	$2.12
507-3910-1432-600	.004	50,000	Green	2.43	2.12
507-3910-1433-600	.004	50,000	Amber	2.43	2.12

TRANSPARENT 10 V, .04 A (Fig. 1)

507-3911-1431-600	.08	10,000	Red	$2.16	$1.93
507-3911-1432-600	.08	10,000	Green	2.16	1.93
507-3911-1433-600	.08	10,000	Amber	2.16	1.93
507-3911-1435-600	.08	10,000	White	2.16	1.93

TRANSLUCENT 14 V, .08 A (Fig. 1)

507-3913-1471-600	.50	1500	Red	$2.22	$1.98
507-3913-1472-600	.50	1500	Green	2.22	1.98
507-3913-1473-600	.50	1500	Amber	2.22	1.98
507-3913-1475-600	.50	1500	White	2.22	1.98

TRANSLUCENT 14 V, .08 A (Fig. 1)

Type No.	C.P.	Life Hours	Lens Color	Net Ea., Lots of 1-9	Net Ea., Lots of 10-24
507-3914-1471-600	.30	15,000	Red	$2.16	$1.93
507-3914-1472-600	.30	15,000	Green	2.16	1.93
507-3914-1473-600	.30	15,000	Amber	2.16	1.93
507-3914-1475-600	.30	15,000	White	2.16	1.93

TRANSLUCENT 28 V, .04 A (Fig. 4)

507-3917-0971-600	.34	4000	Red	$2.16	$1.93
507-3917-0972-600	.34	4000	Green	2.16	1.93
507-3917-0973-600	.34	4000	Amber	2.16	1.93
507-3917-0975-600	.34	4000	White	2.16	1.93

TRANSLUCENT 28 V, .04 A (Fig. 1)

507-3917-1471-600	.34	4000	Red	$2.16	$1.93
507-3917-1472-600	.34	4000	Green	2.16	1.93
507-3917-1473-600	.34	4000	Amber	2.16	1.93
507-3917-1475-600	.34	4000	White	2.16	1.93

TRANSLUCENT 28 V, .04 A (Fig. 1)

507-3918-1471-600	.30	7000	Red	$2.16	$1.93
507-3918-1472-600	.30	7000	Green	2.16	1.93
507-3918-1473-600	.30	7000	Amber	2.16	1.93
507-3918-1475-600	.30	7000	White	2.16	1.93

INCANDESCENT CARTRIDGES 6 V TO 120 V (Fig. 6)

Type No. Clear	Volts	C.P.	Life Hours	Net Each, Lots of 1-9	10-24	25-99	100-249
507-5819-0747-600	6	0.7	5000	$3.48	$2.79	$2.37	$1.99
507-5820-0747-600	12	2.1	5000	3.48	2.79	2.37	1.99
507-5821-0747-600	28	1.2	5000	3.48	2.79	2.37	1.99
507-5822-0747-600	48	1.5	5000	3.48	2.79	2.37	1.99
507-5823-0747-600	60	2.2	5000	3.64	3.30	2.98	2.73
507-5824-0747-600	120	1.5	5000	3.48	2.79	2.37	1.99

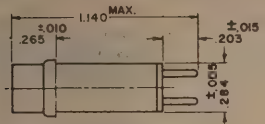


Fig. 1. Short Cylindrical Lens

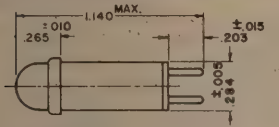


Fig. 7. Short Stovepipe Lens

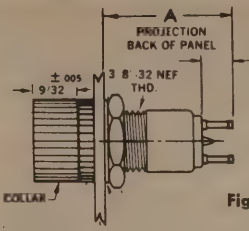


Fig. C.

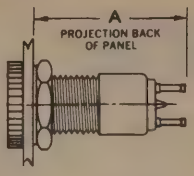


Fig. G.

SOLID-STATE CARTRIDGES

Light source is a solid-state lamp that provides the advantages of low power with extremely long life and is compatible with integrated circuits (can be driven directly by RTL, DTL, or TTL logic). May be used as direct replacements for existing cartridges using an incandescent lamp operating from a DC power source. An internal Fresnel ring pattern in the lens design assures maximum distribution of the light output. Cartridge is supplied in a black anodized finish that produces a high contrast ratio. To facilitate proper installation of the cartridge, the polarity is marked (+) on the cartridge housing and the terminal base is keyed.

SHORT CYLINDRICAL 3.6 V DC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4756-3331-500	Red	$3.03	$2.54	$2.17
507-4856-3332-500	Green	3.34	2.80	2.38
507-4956-3333-500	Yellow	3.34	2.80	2.38

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

SHORT CYLINDRICAL 5 V DC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4757-3331-500	Red	$3.03	$2.54	$2.17
507-4857-3332-500	Green	3.34	2.80	2.38
507-4957-3333-500	Yellow	3.34	2.80	2.38

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

SHORT CYLINDRICAL 6 VDC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4758-3331-500	Red	$3.03	$2.54	$2.17
507-4858-3332-500	Green	3.34	2.80	2.38
507-4958-3333-500	Yellow	3.34	2.80	2.38

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

SHORT CYLINDRICAL 10 VDC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4759-3331-500	Red	$3.03	$2.54	$2.17
507-4859-3332-500	Green	3.34	2.80	2.38
507-4959-3333-500	Yellow	3.34	2.80	2.38

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

SHORT CYLINDRICAL 14 VDC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4760-3331-500	Red	$3.03	$2.54	$2.17
507-4860-3332-500	Green	3.34	2.80	2.38
507-4960-3333-500	Yellow	3.34	2.80	2.38

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

SHORT CYLINDRICAL 28 VDC (Fig. 1)

Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99
507-4761-3331-500	Red	$3.34	$2.80	$2.39
507-4861-3332-500	Green	3.68	3.08	2.67
507-4961-3333-500	Yellow	3.68	3.08	2.67

*To order cartridge with stovepipe lens, change -3331- to -3731-; prices are the same.

DATALAMP HOLDERS

Datalamp holders are available with or without screw-on collar. The use of either is dependent on the desired front-of-panel appearance. The standard black anodized flange nut and collar produce the desired maximum contrast. In addition, the terminals of the holder are marked "A" and "B". The "A" terminal would denote positive polarity. This feature assures proper installation and wiring.

Datalamp Holder Style	Accepts Cartridge Fig. Number*	Turret Terminals Type No.	Solder Cup Terminals Type No.	Dim. A Max.
C	1, 2, 4, 7	508-8738-504	508-7538-504	5 7/64"
G	1, 2, 4, 7	250-8738-14-504	250-7538-14-504	1 1/32"
C	3, 5	508-8745-504	508-7545-504	6 3/64"
G	3, 5	250-8745-14-504	250-7545-14-504	1 1/8"
G	6	250-8758-33-504	250-7558-33-504	1 21/32"

*See preceding page for Figs. 1 through 6.

TURRET TERMINALS

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99
508-8738-504	With collar	$3.14	$2.50	$2.11
250-8738-14-504	Without collar	2.79	2.20	1.87
508-8745-504	With collar	3.14	2.50	2.11
250-8745-14-504	Without collar	2.79	2.20	1.87
250-8758-33-504	Without collar	3.19	2.51	2.15

SOLDER CUP TERMINALS

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99
508-7538-504	With collar	$3.14	$2.50	$2.11
250-7538-14-504	Without collar	2.79	2.20	1.87
508-7545-504	With collar	3.14	2.50	2.11
250-7545-14-504	Without collar	2.79	2.20	1.87
250-7558-33-504	Without collar	3.19	2.51	2.15

CAPS FOR ABOVE HOLDERS WITHOUT COLLARS



Translucent Type No.*	Lens Color	Net Each, Lots of 1-9	10-24	25-99	100-249
250-1471-500	Red	$1.07	.84	.72	.63
250-1472-500	Green	1.07	.84	.72	.63
250-1473-500	Amber	1.07	.84	.72	.63
250-1475-500	White	1.07	.84	.72	.63

*To order transparent lens, change -1471- to -3331-; prices are the same.

CARTRIDGE CONNECTORS



515-0050

Molded phenolic with solder lug terminals of beryllium copper with cadmium plating and elongated slots.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
515-0074	$0.47	$0.39	$0.35	$0.30
515-0050	.47	.39	.35	.30



515-0012

Aluminum sleeve with black anodized finish. Insulation of black molded phenolic. Solder cup terminals of phosphor bronze, gold plated.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
515-0012	$1.56	$1.20	$0.97	$0.78

SPRING CLIP



515-0051

Effective when conventional mounting is not practical. For all Dialight plug-in neon, incandescent and solid-state lamps and cartridges. Self-retaining. Made of heat treated spring steel.

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
515-0051	$0.26	$0.21	$0.19	$0.09

DIALIGHT ULTRA-MINIATURE INDICATOR LIGHTS

DIALCO®



HIGH EFFICIENCY LED DIODELITES

Complete package of light source, housing and lens. Ready for permanent panel mounting. Light source (high brightness) is a solid state lamp that provides the advantages of low power with extremely long life and is compatible with integrated circuits. Mount in 3/8" clearance hole.



SHORT CYLINDRICAL 3.6 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7867-3331-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7967-3332-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8067-3333-504	Yellow	4.80	4.01	3.47	3.10

SHORT STOVEPIPE 3.6 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7867-3731-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7967-3732-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8067-3733-504	Yellow	4.80	4.01	3.47	3.10

SHORT CYLINDRICAL 5 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7868-3331-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7968-3332-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8068-3333-504	Yellow	4.80	4.01	3.47	3.10

SHORT STOVEPIPE 5 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7868-3731-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7968-3732-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8068-3733-504	Yellow	4.80	4.01	3.47	3.10

SHORT CYLINDRICAL 6 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7869-3331-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7969-3332-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8069-3333-504	Yellow	4.80	4.01	3.47	3.10

SHORT STOVEPIPE 6 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7869-3731-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7969-3732-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8069-3733-504	Yellow	4.80	4.01	3.47	3.10

SHORT CYLINDRICAL 10 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7870-3331-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7970-3332-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8070-3333-504	Yellow	4.80	4.01	3.47	3.10

SHORT STOVEPIPE 10 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7870-3731-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7970-3732-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8070-3733-504	Yellow	4.80	4.01	3.47	3.10

SHORT CYLINDRICAL 14 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7871-3331-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7971-3332-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8071-3333-504	Yellow	4.80	4.01	3.47	3.10

SHORT STOVEPIPE 14 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7871-3731-504	Red	$4.37	$3.66	$3.15	$2.82
High eff.	249-7971-3732-504	Green	4.80	4.01	3.47	3.10
High eff.	249-8071-3733-504	Yellow	4.80	4.01	3.47	3.10

SHORT CYLINDRICAL 28 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7872-3331-504	Red	$4.73	$3.97	$3.43	$3.06
High eff.	249-7972-3332-504	Green	5.20	4.37	3.75	3.37
High eff.	249-8072-3333-504	Yellow	5.20	4.37	3.75	3.37

SHORT STOVEPIPE 28 VDC

LED Brightness	Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
High eff.	249-7872-3731-504	Red	$4.73	$3.97	$3.43	$3.06
High eff.	249-7972-3732-504	Green	5.20	4.37	3.75	3.37
High eff.	249-8072-3733-504	Yellow	5.20	4.37	3.75	3.37

DATALITES WITH PERMANENT NEON LAMPS



Lamps are built-in, not replaceable. Mount in 3/8" clearance hole. Rugged, long-life T-2 neon lamp. Resistors to MIL-R-11 specification. Lightweight construction of aluminum with black anodized finish. Plastic lens gives wide angle visibility. Two insulated terminals of low carbon steel, solder plated. With mounting hardware.



HIGH BRIGHTNESS UNIT W/C2A (NE-2H) LAMP 110-125 VAC, 5000 APPROXIMATE HOURS

Conforms to MIL-L-3661 specification. Stovepipe lens and built-in 22K resistor. 1 25/64" × 1/2" overall.

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
249-7866-0931-514	Red	$3.74	$3.18	$2.77	$2.39
249-7866-0933-514	Amber	3.74	3.18	2.77	2.39
249-7866-0935-514	White	3.74	3.18	2.77	2.39
249-7866-0937-514	Clear	3.74	3.18	2.77	2.39

Conforms to MIL-L-3661 specification. Cylindrical lens and built-in 22K resistor. 1 25/64" × 1/2" overall.

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
249-7866-1431-514	Red	$3.74	$3.18	$2.77	$2.39
249-7866-1433-514	Amber	3.74	3.18	2.77	2.39
249-7866-1435-514	White	3.74	3.18	2.77	2.39
249-7866-1437-514	Clear	3.74	3.18	2.77	2.39

STANDARD BRIGHTNESS UNIT W/A9A (NE-2E) LAMP 105-125 V 25,000 APPROXIMATE HOURS

Short stovepipe lens and built-in 100K resistor. 1 25/64" × 1/2" overall.

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
249-7841-0931-574	Red	$3.74	$3.18	$2.77	$2.39
249-7841-0933-574	Amber	3.74	3.18	2.77	2.39
249-7841-0935-574	White	3.74	3.18	2.77	2.39
249-7841-0937-574	Clear	3.74	3.18	2.77	2.39

Short cylindrical lens and built-in 100K resistor. 1 25/64" × 1/2" overall.

Type No.	Color	Net Each, Lots of 1-9	10-24	25-99	100-249
249-7841-1431-574	Red	$3.74	$3.18	$2.77	$2.39
249-7841-1433-574	Amber	3.74	3.18	2.77	2.39
249-7841-1435-574	White	3.74	3.18	2.77	2.39
249-7841-1437-574	Clear	3.74	3.18	2.77	2.39

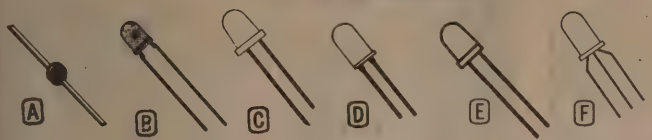
Green or blue lenses are not recommended for use with neon lamps.

DIALIGHT

DISCRETE LEDs AND INDICATORS

DIALCO®

SOLID-STATE LED LAMPS



DISCRETE LEDS

Type No.	Fig.	Pkg.	Lens Color	Typ. Fwd. V/mA	Typ. Lum. mcd	Net Each, Lots of 1-9	10-99	100-999	1000-2499
521-9185	A	T-3/4	Red Non-diff.	1.6/20	0.8	$0.45	$0.45	$0.25	$0.17
521-9186	A	T-3/4	Red Diff.	1.6/20	0.8	.45	.45	.25	.17
521-9216	B	T-1	Red Diff.	1.6/20	2.0	.29	.29	.19	.15
521-9210	B	T-1	Green Diff.	2.4/20	2.0	.60	.60	.50	.40
521-9211	B	T-1	Yellow Diff.	2.2/10	2.0	.60	.60	.50	.40
521-9200*	C	T-1 3/4	Red Diff.	1.9/20	1.0	.28	.28	.21	.17
521-9165*	C	T-1 3/4	Red Diff.	1.7/20	2.0	.50	.50	.37	.33
521-9166*	C	T-1 3/4	Clear Diff.	1.7/20	2.0	.50	.50	.37	.33
521-9173*	C	T-1 3/4	Green Diff.	2.3/20	3.2	.50	.50	.37	.33
521-9253*	C	T-1 3/4	Green Non-diff.	2.3/20	8.0	.50	.50	.37	.33
521-9174*	C	T-1 3/4	Yellow Diff.	2.3/20	3.2	.50	.50	.37	.33
521-9254*	C	T-1 3/4	Yellow Non-diff.	2.3/20	8.0	.50	.50	.37	.33
521-9240†	D	T-1 3/4	Red Diff.	1.9/20	1.9	.27	.27	.21	.17
521-9212†	D	T-1 3/4	Red Diff.	1.6/20	2.0	.30	.30	.25	.20
521-9175*	D	T-1 3/4	Green Diff.	2.3/20	3.2	.50	.50	.37	.33
521-9176*	D	T-1 3/4	Yellow Diff.	2.3/20	3.2	.50	.50	.37	.33
521-9177	E	T-1 3/4	Red/Green	2.3/10	1.8	1.62	1.62	1.08	.89
521-9178	F	T-1 3/4	Red/Green	2.3/10	1.5	1.62	1.62	1.08	.89
521-9183†	D	T-1 3/4	Red Diff.	5.0/15	2.0	.60	.60	.45	.35
521-9246†	E	T-1 3/4	Red Diff.	2.2/10	4.0	.90	.85	.70	.60
521-9247†	E	T-1 3/4	Red Non-diff.	2.2/10	24.0	.90	.85	.70	.60
521-9248†	E	T-1 3/4	Yellow Diff.	2.2/10	3.0	.90	.85	.70	.60
521-9249†	E	T-1 3/4	Yellow Non-diff.	2.2/10	16.0	.90	.85	.70	.60
521-9250†	E	T-1 3/4	Green Diff.	2.4/10	3.0	.90	.85	.70	.60
521-9251†	E	T-1 3/4	Green Non-diff.	2.4/10	16.0	.90	.85	.70	.60

*Use mounting clip No. 515-0005. †Use mounting clip No. 515-0004.

MOUNTING CLIPS FOR DISCRETE LEDS

Type No.	Net Each, Lots of 1-24	25-249	250-999	1000-2499
515-0004	$0.14	$0.08	$0.07	$0.06
515-0005	.14	.08	.07	.06

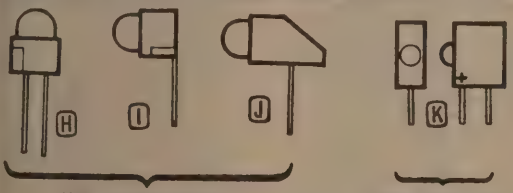
560 SERIES HIGH BRIGHTNESS LED BI-PIN LAMPS



Interchangeable with T-1 3/4 incandescent lamps. With built-in resistor for operation at 5 volts. Available without resistor for operation at other voltage levels. Wide (diffused) or narrow (non-diffused) beam angle. Short lead denotes cathode.

Type No.	Lens	Net Each, Lots of 1-9	10-24	25-99
560-0103	Red	$1.12	$1.05	$0.98
560-0203	Green	1.12	1.05	.98
560-0303	Yellow	1.12	1.05	.98
560-0403	Red*	1.12	1.05	.98
560-0503	Green*	1.12	1.05	.98
560-0603	Yellow*	1.12	1.05	.98

*Non-diffused lens for wide beam angle; all others diffused lens for narrow beam angle.



Use T-1 3/4 LED

Uses T-3/4 LED

550 SERIES CIRCUIT BOARD INDICATORS

LED lamps with a high light level for back panel illumination.

Type No.	Bright-ness	Color	Fig.	Net Each, Lots of 1-99	100-999	1000-2499
550-0204	Std.	Green	H	$0.65	$0.50	$0.43
550-0304	Std.	Yellow	H	.65	.50	.43
550-0404	Std.	Red	H	.54	.37	.32
550-0504*	Std.	Red	H	.80	.66	.57
550-0205	Std.	Green	I	.65	.50	.43
550-0305	Std.	Yellow	I	.65	.50	.43
550-0405	Std.	Red	I	.54	.37	.32
550-0505*	Std.	Red	I	.80	.66	.57
550-0206	Std.	Green	J	.65	.50	.43
550-0306	Std.	Yellow	J	.65	.50	.43
550-0406	Std.	Red	J	.54	.37	.32
550-0506*	Std.	Red	J	.80	.66	.57
550-2204	High	Green	H	.78	.59	.49
550-2304	High	Yellow	H	.78	.59	.49
550-2404	High	Red	H	.78	.59	.49
550-2205	High	Green	I	.78	.59	.49
550-2305	High	Yellow	I	.78	.59	.49
550-2405	High	Red	I	.78	.59	.49
550-2206	High	Green	J	.78	.59	.49
550-2306	High	Yellow	J	.78	.59	.49
550-2406	High	Red	J	.78	.59	.49

*With integral resistor for 5 V operation.

555 SERIES CIRCUIT BOARD INDICATORS

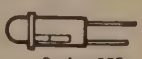
Red LED logic state indicators. May be used as fault indicators when troubleshooting complex circuits.

Type No.	Volts at mA	Fig.	Net Each, Lots of 1-9	10-24	25-99	100-249
555-2001	1.7 at 40*	K	$1.00	$0.91	$0.83	$0.76
555-2002	3.6 at 20	K	1.11	1.01	.92	.84
555-2007	5.0 at 3	K	1.11	1.01	.92	.84
555-2003	5.0 at 6.5	K	1.11	1.01	.92	.84
555-2004	5.0 at 16†	K	1.11	1.01	.92	.84
555-2005	10 at 14	K	1.11	1.01	.92	.84
555-2006	14 at 10	K	1.11	1.01	.92	.84

*Requires external resistor. †May be operated at 6 V at 20 mA for higher brightness.

558 AND 559 SERIES SNAP-IN INDICATORS

Snap-in mounting requires no additional hardware. Series 558 mounts in 0.156" hole; Series 559 mounts in 0.250" hole. Available with straight pin terminals for wire wrapping or soldering or with 6" wire leads. Black housing enhances contrast ratio. Polarity is identified. High brightness LEDs provide wide angle visibility with low power requirements (15-20 mA).



Series 558



Series 559

558 SERIES STANDARD BRIGHTNESS LED REQUIRES EXTERNAL RESISTOR

Type No.	Color	Connections	Net Each, Lots of 1-9	10-99	100-499
558-0101-001	Red	Terms.	$0.79	$0.63	$0.42
558-0201-001	Green	Terms.	1.16	1.00	.79
558-0301-001	Yellow	Terms.	1.16	1.00	.79
558-0101-003	Red	Leads	1.19	1.03	.88
558-0201-003	Green	Leads	1.56	1.35	1.17
558-0301-003	Yellow	Leads	1.56	1.35	1.17
WITH INTEGRAL RESISTOR (5 V, 15 mA TYPICAL)					
558-0102-001	Red	Terms.	$1.05	$0.89	$0.68
558-0202-001	Green	Terms.	1.47	1.31	1.00
558-0302-001	Yellow	Terms.	1.47	1.31	1.00
558-0102-003	Red	Leads	1.54	1.33	1.14
558-0202-003	Green	Leads	1.92	1.66	1.43
558-0302-003	Yellow	Leads	1.92	1.66	1.43

559 SERIES STANDARD BRIGHTNESS LED REQUIRES EXTERNAL RESISTOR

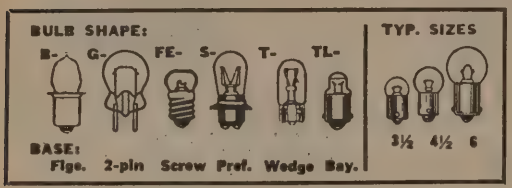
Type No.	Color	Connections	Net Each, Lots of 1-9	10-99	100-499
559-0101-001	Red	Terms.	$0.79	$0.63	$0.42
559-0201-001	Green	Terms.	1.16	1.00	.79
559-0301-001	Yellow	Terms.	1.16	1.00	.79
559-0101-003	Red	Leads	1.19	1.03	.88
559-0201-003	Green	Leads	1.56	1.35	1.17
559-0301-003	Yellow	Leads	1.56	1.35	1.17
WITH INTEGRAL RESISTOR (5 V, 15 mA TYPICAL)					
559-0102-001	Red	Terms.	$1.05	$0.89	$0.68
559-0202-001	Green	Terms.	1.47	1.31	1.00
559-0302-001	Yellow	Terms.	1.47	1.31	1.00
559-0102-003	Red	Leads	1.54	1.33	1.14
559-0202-003	Green	Leads	1.92	1.66	1.43
559-0302-003	Yellow	Leads	1.92	1.66	1.43

559 SERIES HIGH BRIGHTNESS LED REQUIRES EXTERNAL RESISTOR

Type No.	Color	Connections	Net Each, Lots of 1-9	10-99	100-499
559-2101-001	Red	Terms.	$1.35	$0.95	$0.79
559-2201-001	Green	Terms.	1.35	.95	.79
559-2301-001	Yellow	Terms.	1.35	.95	.79
559-2101-003	Red	Leads	1.77	1.37	1.16
559-2201-003	Green	Leads	1.77	1.37	1.16
559-2301-003	Yellow	Leads	1.77	1.37	1.16

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS



Lamp No.	Bulb	Base*	Design Volts	Design Amps	Net Price* Each	Net Price* Box 10
PR2	B-3½	S.C. min. flanged	2.38	.50	$0.52	$ 3.16
PR3	B-3½	S.C. min. flanged	3.57	.50	.54	3.26
PR4	B-3½	S.C. min. flanged	2.33	.27	.54	3.26
PR6	B-3½	S.C. min. flanged	2.47	.30	.54	3.26
PR7	B-3½	S.C. min. flanged	3.7	.30	.63	3.81
PR12	B-3½	S.C. min. flanged	5.95	.50	.54	3.26
PR13	B-3½	S.C. min. flanged	4.75	.50	.54	3.26
PR15	B-3½	S.C. min. flanged	4.82	.50	.72	4.32
PR16	B-3½	S.C. min. flanged	12.5	.25	.73	4.38
PR18	B-3½	S.C. min. flanged	7.2	.55	.68	4.12
PR20	B-3½	S.C. min. flanged	8.63	.50	.82	4.94
6	S-8	D.C. bayonet	6.4	3.00	1.73	10.44
10	G-3½	Min. two-pin	2.5	.50	.94	5.66
12	G-3½	Min. two-pin	6.3	.15	.76	4.60
13	G-3½	Min. screw	3.7	.30	.43	2.59
14	G-3½	Min. screw	2.47	.30	.43	2.59
15	G-4½	Min. two-pin	7.0	.40	1.60	9.63
19	G-3½	Min. two-pin	14.4	.10	1.07	6.46
27	G-4½	Min. screw	4.9	.30	.84	5.09
31	G-4½	Min. screw	6.15	.30	1.22	7.38
35	G-5½	Min. screw	2.5	.80	2.17	13.09
37	T-1¾	Subminiature wedge	14	.09	.63	3.82
40	T-3¼	Min. screw	6.3	.15	.45	2.74
41	T-3¼	Min. screw	2.5	.50	.69	4.15
42	T-3¼	Min. screw	3.2	.35	1.76	10.59
43	T-3¼	Min. bayonet	2.5	.50	.69	4.15
44	T-3¼	Min. bayonet	6.3	.25	.44	2.65
45	T-3¼	Min. bayonet	3.2	.35	1.17	7.04
46	T-3¼	Min. screw	6.3	.25	.43	2.57
47	T-3¼	Min. bayonet	6.3	.15	.41	2.47
48	T-3¼	Min. screw	2.0	.06	.87	5.26
49	T-3¼	Min. bayonet	2.0	.06	.79	4.78
50	G-3½	Min. screw	7.5	.22	.52	3.13
51	G-3½	Min. bayonet	7.5	.22	.38	2.29
53	G-3½	Min. bayonet	14.4	.12	.42	2.56
53R†	G-3½	Min. bayonet	14.4	.12	1.80	10.87
55	G-4½	Min. bayonet	7.0	.41	.58	3.51
57	G-4½	Min. bayonet	14.0	.24	.50	3.04
63	G-6	S.C. bayonet	7.0	.63	.56	3.40
64	G-6	D.C. bayonet	7.0	.63	.79	4.76
67	G-6	S.C. bayonet	13.5	.59	.55	3.29
67K	G-6	Candelabra screw	13.5	.41	2.12	12.76
68	G-6	D.C. bayonet	13.5	.59	.76	4.59
72	G-6	D.C. bayonet	22	.18	2.26	13.63
73	T-1¾	Subminiature wedge	14	.08	.63	3.82
74	T-1¾	Subminiature wedge	14	.10	.63	3.82
81	G-6	S.C. bayonet	6.5	1.02	.70	4.22
82	G-6	D.C. bayonet	6.5	1.02	.61	3.68
84	T-1¾	Subminiature wedge	6.3	.04	.77	4.66
85	T-1¾	Subminiature wedge	28	.04	.77	4.66
86	T-1¾	Subminiature wedge	6.3	.20	.77	4.66
87	S-8	S.C. bayonet	6.8	1.91	1.53	9.21
88	S-8	D.C. bayonet	6.8	1.91	.95	5.72
89	G-6	S.C. bayonet	13.0	.58	.56	3.40
89K	G-6	Candelabra screw	13.0	.53	2.43	14.68
90	G-6	D.C. bayonet	13.0	.58	.63	3.81
93	S-8	S.C. bayonet	12.8	1.04	.80	4.84
94	S-8	D.C. bayonet	12.8	1.04	.90	5.41
97	G-6	S.C. bayonet	13.5	.69	.54	3.28
112	TL-3	Min. screw	1.2	.22	.99	5.96
123	G-3½	Min. screw	1.25	.30	.54	3.24
130	G-3½	Min. bayonet	6.3	.15	.58	3.49
131	G-3½	Min. screw	1.3	.10	.56	3.35
136	G-4½	Min. screw	1.25	.60	1.93	11.66
153	G-6	Min. screw	5.8	1.10	6.78	40.90
157	G-6	Min. screw	5.8	1.10	3.52	21.20
158	T-3¼	Wedge	14	.24	.59	3.54
159	T-3¼	Wedge	6.3	.15	.67	4.06
161	T-3¼	Wedge	14	.19	.51	3.10
168	T-3¼	Wedge	14	.35	.54	3.24
192	T-3¼	Wedge	13	.33	1.22	7.37
194	T-3¼	Wedge	14	.27	.51	3.06
209	B-6	S.C. bayonet	6.5	1.78	1.06	6.41
210	B-6	D.C. bayonet	6.5	1.78	1.06	6.41
211-2	T-3	Min. cap (round)	12.8	.97	.88	5.28
212-2	T3	Min. cap (round)	13.5	.74	1.01	6.07
214-2	T-3	Min. cap (round)	13.5	.50	1.03	6.19
222	TL-3	Min. screw	2.25	.25	.66	3.97
224	TL-2¾	Special 1½-turn thd.	2.15	.22	1.46	8.79
233	G-3½	Min. screw	2.33	.27	.81	4.87
238	T-3¼	Min. bayonet	6.3	.50	2.05	12.35
239	T-3¼	Min. bayonet	6.3	.36	1.73	10.46
245	G-3½	Min. screw	2.4fl	.50	.74	4.46
253	TL-1¾	Midget grooved	2.5	.35	6.11	36.90
253X	TL-1¾	Midget grooved	2.5	.35	7.44	44.90
256	T-3¼	Min. bayonet, flasher	14	.27	1.37	8.28
257	G-4½	Min. bayonet, flasher	14.0	.27	1.04	6.25
258	G-4½	Min. screw, flasher	14.0	.27	1.41	8.53
259	T-3¼	Wedge	6.3	.25	.54	3.24
261	TL-1¾	Midget grooved	2.5	.35	$12.01	$72.40
268	T-1¾	S.C. midget flanged	2.5	.35	3.95	23.80
293	G-4½	Min. bayonet	14	.33	.52	3.13
303	G-6	S.C. bayonet	28	.30	1.66	9.99
304	G-6	D.C. bayonet	28	.30	1.92	11.59
306	S-8	D.C. bayonet	28.0	.51	3.53	21.30
307	S-8	S.C. bayonet	28.0	.67	1.85	11.15
308	S-8	D.C. bayonet	28.0	.67	2.36	14.21
311	S-11	S.C. bayonet	28	1.29	2.75	16.60
312	S-11	D.C. bayonet	28	1.29	5.53	33.30
313	T-3¼	Min. bayonet	28	.17	.95	5.71
323	T-1¼	Special thd.	3	.19	3.27	19.71
325	T-1¼	Special thd.	3	.19	3.67	22.10
327	T-1¾	S.C. midget flanged	28	.04	1.23	7.43
327R†	T-1¾	S.C. midget flanged	28	.04	1.93	11.66
328	T-1¾	S.C. midget flanged	6	.20	.95	5.75
330	T-1¾	S.C. midget flanged	14	.08	1.65	9.94
334	T-1¾	Midget grooved	28	.04	1.85	11.13
335	T-1¾	Midget screw	28	.04	3.15	19.00
336	T-1¾	Midget grooved	14	.08	2.99	18.03
337	T-1¾	Midget grooved	6	.20	3.55	21.40
338	T-1¾	S.C. midget flanged	2.7	.06	1.79	10.81
344	T-1¾	S.C. midget flanged	10	.014	2.82	17.03
345	T-1¾	S.C. midget flanged	6	.04	3.12	18.82
349	T-1¾	S.C. midget flanged	6.3	.20	2.22	13.40
356	G-3½	Min. bayonet	28	.17	1.75	10.57
363	G-3½	Min. bayonet	14.0	.20	.68	4.12
370	T-1¾	S.C. midget flanged	18	.04	3.12	18.82
378	T-1¾	Midget screw	6.3	.20	3.69	22.20
380	T-1¾	S.C. midget flanged	6.3	.04	4.36	26.30
381	T-1¾	S.C. midget flanged	6.3	.20	2.32	13.99
382	T-1¾	S.C. midget flanged	14	.08	2.45	14.79
387	T-1¾	S.C. midget flanged	28	.04	1.25	7.51
400	T-3¼	Wedge	28	.10	1.73	10.46
405	G-4½	Min. screw, flasher	6.5	.50	1.60	9.63
406	G-4½	Min. screw, flasher	2.6	.30	1.33	8.04
407	G-4½	Min. screw, flasher	4.9	.30	.90	5.41
425	G-4½	Min. screw	5.0	.50	.88	5.31
428	G-4½	Min. screw	12.5	.25	1.34	8.09
431	G-4½	Min. bayonet	14.0	.25	1.91	11.53
432	G-4½	Min. screw	18.0	.25	1.39	8.40
455	G-4½	Min. bayonet, flasher	6.5	.50	1.32	7.94
464	T-3¼	Wedge	28	.17	2.66	16.03
502	G-4½	Min. screw	5.1	.15	.45	2.74
509K	G-6	Candelabra screw	24	.18	1.11	6.69
558	T-3¼	Wedge	13	.34	.96	5.78
561	T-3	Flat clip	12.8	.97	.89	5.40
562	T-3	Flat clip	13.5	.74	.99	5.97
563	T-3	Flat clip	13.5	.50	.97	5.84
605	G-4½	Min. screw	6.15	.50	1.27	7.66
623	G-6	S.C. bayonet	28	.37	1.84	11.12
656	T-3¼	Wedge	28	.06	1.32	7.97
657	T-3¼	Wedge	28	.08	1.26	7.59
658	T-3¼	Wedge	14	.08	2.82	17.03
683	T-1	Wire terminal	5	.06	3.98	24.00
685	T-1	Sub-midget flanged	5	.06	4.81	29.00
718	T-1	Sub-midget flanged	5	.115	4.81	29.00
755	T-3¼	Min. bayonet	6.3	.15	.85	5.15
756	T-3¼	Min. bayonet	14	.08	1.41	8.49
757	T-3¼	Min. bayonet	28	.08	1.26	7.57
809M	G-8	Min. screw	70	8 W	8.72	52.60
872	T-4½	Min. bayonet	8.0	.90	19.14	115.40
904	T-5	Wedge	13.5	.69	.89	5.35
906	T-5	Wedge	13.0	.66	.70	4.24
912	T-5	Wedge	12.8	1.0	.89	5.35
958	G-16½	D.C. bayonet	5.5	2.0	14.91	89.90
965	T-4½	Min. screw	9.84	.50	2.94	17.74
1003	B-6	S.C. bayonet	12.8	.94	.78	4.74
1004	B-6	D.C. bayonet	12.8	.94	.78	4.74
1019	G-16½	S.C. bayonet	12.8	4.75	7.66	46.20
1021	RP-11	S.C. prefocus	4.5	1.25	6.89	41.50
1034	S-8	D.C. indexing (2 pos. taillight)	12.8 14.0	1.80 .59	.88	5.31
1034A‹	S-8	D.C. indexing (front park & turn signal)	12.8 14.0	1.80 .59	1.66	9.99
1035	S-8	D.C. index	12.8 14.0	1.44 .59	1.96	11.79
1056	RP-11	D.C. bayonet	32	1.15	7.15	43.10
1073	S-8	S.C. bayonet	12.8	1.80	1.03	6.21
1076	S-8	D.C. bayonet	12.8	1.80	1.21	7.32
1129	S-8	S.C. bayonet	6.4	2.63	.88	5.28
1130	S-8	D.C. bayonet	6.4	2.63	1.28	7.74
1133	RP-11	S.C. bayonet	6.2	3.91	1.76	10.59
1134	RP-11	D.C. bayonet	6.2	3.91	2.67	16.09
1141	S-8	S.C. bayonet	12.8	1.44	.79	4.74
1142	S-8	D.C. bayonet	12.8	1.44	.90	5.41
1143	RP-11	S.C. bayonet	12.5	1.98	2.59	15.60
1144	RP-11	D.C. bayonet	12.5	1.98	2.54	15.32
1154	S-8	D.C. indexing (2 pos. taillight)	6.4 7.0	2.63 .75	1.10	6.65
1156	S-8	S.C. bayonet	12.8	2.10	1.03	6.21
1157	S-8	D.C. indexing (2 pos. taillight)	12.8 14.0	2.10 .59	.76	4.60
1157A‹	S-8	D.C. indexing (front park & turn signal)	12.8 14.0	2.10 .59	1.55	9.35
1158	S-8	D.C. bayonet (2 pos. taillight)	6.4 7.0	2.63 .75	1.51	9.12
1176	S-8	D.C. bayonet (2 pos. taillight)	12.8 14.0	1.34 .59	1.17	7.06

*S.C. single contact; D.C., double contact; Min., miniature. †Outside coated red. ‡Outside coated green. ‹Outside coated amber. *FET included where applicable.

CONTINUED ON FOLLOWING PAGE

General Electric Miniature Lamps

PANEL, PILOT, FLASHLIGHT LAMPS (CONT'D)

Lamp No.	Bulb	Base*	Design Volts	Design Amps	Net Price* Each	Net Price* Box 10
1183	RP-11	S.C. bayonet	5.5	6.25	$ 3.55	$21.40
1184	RP-11	D.C. bayonet	5.5	6.25	3.47	20.90
1195	RP-11	S.C. bayonet	12.5	3.00	3.85	23.20
1196	RP-11	D.C. bayonet	12.5	3.00	4.05	24.40
1203	S-8	S.C. bayonet	28.0	.71	3.23	19.50
1204	S-8	D.C. bayonet	28.0	.71	4.80	28.90
1209	RP-11	S.C. prefocus	6.1	4.1	5.26	31.70
1224	G-6	D.C. bayonet	34	.16	2.07	12.47
1224K	G-6	Candelabra screw	32	.16	2.07	12.50
1228	S-8	D.C. bayonet	34.0	.45	3.59	21.60
1240	G-16½	D.C. prefocus	32	3.6	5.77	34.80
1247	G-6	S.C. bayonet	14	.48	2.71	16.35
1251	G-6	S.C. bayonet	28	.23	1.53	9.24
1252	G-6	D.C. bayonet	28	.23	1.89	11.38
1295	S-8	S.C. bayonet	12.5	3	3.02	18.24
1302	T-3¼	Min. bayonet	6.3	.035–.050	1.28	7.72
1309	B-6	S.C. bayonet	28	.52	6.70	40.40
1315	G-5	S.C. bayonet	2.5	1.00	3.02	18.19
1323	RP-11	S.C. prefocus	6.2	4.13	5.21	31.40
1325	RP-11	S.C. prefocus	6.2	4.13	9.17	55.30
1385	R-12	S.C. bayonet	28	20 W	7.98	48.10
1406	G-4½	Min. bayonet	6.0	.04	2.72	16.41
1408	T-3¼	Min. bayonet	10	.13	.81	4.87
1414	T-4½	Min. bayonet	14	.46	2.52	15.19
1416	T-4½	Min. bayonet	12.8	.80	1.94	11.68
1434	T-5	S.C. bayonet	3.7	2.75	10.34	62.40
1445	G-3½	Min. bayonet	14.4	.135	.42	2.56
1446	G-3½	Min. screw	12.0	.20	1.34	8.10
1447	G-3½	Min. screw	18	1.5	.58	3.51
1449	G-3½	Min. screw	14.0	.20	.44	2.68
1450	G-3½	Min. bayonet	24	.03	2.82	17.01
1459	S-8	S.C. bayonet	4.0	.80	4.77	28.80
1460	S-8	D.C. prefocus	6.5	2.75	7.18	43.30
1460X	S-8	D.C. prefocus	6.5	2.75	9.46	57.10
1474	T-3	Min. screw	14.0	.17	1.67	10.07
1477	T-3	Min. screw	24.0	.17	2.24	13.49
1480	T-4	Candelabra screw	18	.17	3.92	23.70
1483	G-4½	Min. screw	6.0	.04	1.10	6.65
1487	T-3¼	Min. screw	14	.20	.69	4.15
1488	T-3¼	Min. bayonet	14	.15	1.46	8.79
1489	T-5	S.C. bayonet	6.5	2.75	10.58	63.80
1490	T-3¼	Min. bayonet	3.2	.16	1.37	8.28
1493	S-8	D.C. bayonet	6.5	2.75	3.48	21.00
1495	T-4½	Min. bayonet	28	.30	1.57	9.49
1497	S-8	D.C. bayonet	6.5	2.75	6.22	37.50
1501	RP-11	S.C. prefocus	5.9	6.36	7.23	43.60
1503	RP-11	S.C. prefocus	5.9	6.53	5.02	30.30
1507	RP-11	S.C. prefocus	12.5	3.00	6.59	39.80
1561	S-11	S.C. prefocus	6.3	4.0	13.29	80.10
1584	S-8	D.C. bayonet	4.0	2.0	5.45	32.90
1594	S-8	D.C. bayonet	6.0	5.0	7.20	43.40
1608	S-8	D.C. bayonet	6.4	2.69	5.61	33.80
1613	S-8	S.C. bayonet	6.0	1.5	6.01	36.20
1615	S-8	S.C. prefocus	6.0	5.0	8.35	50.30
1619	S-8	S.C. bayonet	6.7	1.90	4.53	27.30
1630	S-8	D.C. prefocus	6.5	2.75	4.56	27.50
1631X	S-8	D.C. prefocus	6.5	2.75	10.93	65.90
1634	S-8	D.C. prefocus	20.0	1.0	9.86	59.50
1638	S-8	D.C. bayonet	28.0	1.02	$ 4.83	$29.10
1649	S-8	D.C. prefocus	6.5	2.75	24.11	145.40
1651	S-8	S.C. bayonet	5.0	.60	3.69	22.20
1662	S-8	D.C. index	28	.93	8.29	50.00
			28	.34		
1665	S-8	S.C. bayonet	28	.80	3.43	20.70
1665IF	S-8	S.C. bayonet	28	.80	3.33	20.10
1680	S-8	S.C. bayonet	6.0	4.10	2.51	15.12
1683	S-8	S.C. bayonet	28.0	1.02	3.13	18.90
1691	S-8	S.C. bayonet	28	.61	4.33	26.10
1691IF	S-8	S.C. bayonet	28	.61	6.05	36.50
1692	S-8	D.C. bayonet	28.0	.61	5.12	30.90
1724	S-11	D.C. bayonet	6.2	4.5	4.65	28.00
1759	S-11	S.C. prefocus	6.1	4.10	13.48	81.30
1763	S-11	S.C. prefocus	6.1	4.10	5.87	35.40
1764D	T-1¾	Wire terminal	28	.04	1.12	6.75
1767	T-1¾	Midget screw	2.5	.20	1.61	9.74
1768	T-1¾	Midget screw	6	.20	1.90	11.49
1769	T-1¾	Midget screw	2.5	.20	2.26	13.65
1810	T-3¼	Min. bayonet	6.3	.40	2.80	16.85
1813	T-3¼	Min. bayonet	14.4	.10	.73	4.40
1815	T-3¼	Min. bayonet	14	.20	.86	5.21
1816	T-3¼	Min. bayonet	1.3	.33	.61	3.68
1818	T-3¼	Min. bayonet	24	.17	2.16	13.04
1819	T-3¼	Min. bayonet	28	.04	1.04	6.25
1820	T-3¼	Min. bayonet	28	.10	1.00	6.06
1821	T-3¼	Min. screw	28	.17	2.21	13.31
1822	T-3¼	Min. bayonet	36	.10	1.71	10.29
1823	T-3¼	Min. screw	48	.10	2.85	17.16
1826	T-3¼	Min. bayonet	18	.15	1.94	11.68
1828	T-3¼	Min. bayonet	37.5	.05	1.83	11.01
1829	T-3¼	Min. bayonet	28	.07	1.03	6.19
1835	T-3¼	Min. bayonet	55	.05	2.07	12.47
1841	T-4	Candelabra screw	24	.17	4.21	25.40
1843	T-3¼	Min. bayonet	28	.022	2.79	16.81
1847	T-3¼	Min. bayonet	6.3	.15	.48	2.93
1850	T-3¼	Min. bayonet	5	.09	1.08	6.50
1850W	T-3¼	Min. bayonet	5.0	.09	1.02	6.18
1855	T-4½	Min. bayonet	6.3	.80	1.57	9.47
1864	T-3¼	Min. bayonet	28	.17	1.26	7.62
1866	T-3¼	Min. bayonet	6.3	.25	.61	3.69
1867	T-3¼	Min. bayonet	4	.06	2.80	16.85
1874	T-5	S.C. bayonet	3.7	2.75	9.84	59.30
1876	T-5	S.C. bayonet	3.5	2.50	12.95	78.10
1884	T-5	S.C. bayonet	6.5	1.54	31.50	189.90
1886	T-4½	Min. bayonet	6.3	.90	1.90	11.49
1891	T-3¼	Min. bayonet	14	.24	.49	2.96
1892	T-3¼	Min. bayonet	14.4	.12	.69	4.19
1893	T-3¼	Min. bayonet	14	.33	.49	2.96
1895	G-4½	Min. bayonet	14.0	.27	.50	3.04
1898	T-3¼	Min. bayonet	14	.33	1.64	9.88
1906	T-3¼	Min. bayonet	5.0	.07	3.90	23.50
1909	T-3¼	Min. bayonet	14.4	.10	.88	5.32
2187D	T-1¾	Wire terminal	28	.04	1.95	11.78
2233	S-8	S.C. bayonet	28	.766	6.51	39.30
2331	RP-11	D.C. prefocus (2-pos. headlamp)	5.9	4.66	5.32	32.10
			6.2	4.49		
2530	RP-11	D.C. prefocus (2-pos. headlamp)	5.9	6.53	7.15	43.10
			6.2	4.23		

*S.C., single contact; D.C., double contact; Min., miniature.
***FET included where applicable.**

*S.C., single contact; D.C., double contact; Min., miniature.
***FET included where applicable.**

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RELAMPABLE INDICATOR LIGHTS

TINY-MITE SERIES INDICATOR LIGHTS

Indicators feature patented socket construction which holds lamp securely, makes contact reliably and will not loosen with vibration or shock, yet permits easy lamp removal and replacement. Sockets and assemblies will accept various wedge-base lamps ranging from 6.3 to 28 volts. See table below.

SERIES 4600 INDICATOR LIGHTS

Complete assembly consists of socket, lens and lamp; components must be ordered separately but can be supplied assembled, on request, at no extra charge. No. 4610 socket (without threads) is supplied with No. SN3486 push-on Speednut*; can be keyed to prevent rotation. No. 4611 socket (threaded) supplied with zinc finished hex nut and internal tooth lockwasher. Polycarbonate lens; available in 7 colors, dome or flat. Polished, stainless steel bezel. Black nylon socket.

LENSES

Color	IDI No. Dome Lens	IDI No. Flat Lens	Price Code
Red	4621	4631	AE
Clear	4622	4632	AE
Amber	4623	4633	AE
White	4624	4634	AE
Green	4625	4635	AE
Blue	4626	4636	AE
Yellow	4627	4637	AE

SOCKETS

IDI No.	Fig.	Description	Price Code
4610	A	Without threads	AF
4611	B	Threaded	AL

TINY-MITE LAMP SOCKETS—KEYED

Sub-miniature wedge-base lamp sockets available in various styles. White nylon housing. Wire leads are 4 1/2" long, stripped 1/2". Sockets are keyed to prevent rotation.

IDI No.	Fig.	Mounting	Terminals	Price Code
4100	C	Rear insertion	Wire leads	AM
4110	D	Rivet	Solder lug	AB
4120	E	Tab	Wire leads	AM
4130	F	P.C.	P.C. terminals	AA
4140	G	P.C.	P.C. terminals	AG
4142	H	P.C.	P.C. terminals	AG

SUB-MINIATURE WEDGE-BASE LAMPS

Lamp No.	Design Volts	Design Amps	Candle-power Approx.	Rated Life Hours	Price Code
84	6.3	.04	.03	20,000	AK
86	6.3	.2	.4	20,000	AF
73	14.0	.08	.3	15,000	AH
37	14.0	.09	.5	1,500	AF
74	14.0	.1	.7	500	AH
85	28.0	.04	.3	7,000	AI

MINI-SLIDE PILOT LIGHTS

Mini-slide pilot lights are easy to install with push-on Speednut mounting. Connections can be made by soldering or with Q.C. receptacles. Front-of-panel relamping; never any need for tools or to go behind the panel.

PILOT LAMPS

Lamp No.	Design Volts	Design Amps	Rated Life Hours	Watts at Design Volts	Avg. End Foot Candles	Price Code
6PSB	6.0	.14	20,000	.8	500	AN
12PSB	12.0	.17	12,000	2.0	2000	AN
24PSB	24.0	.073	10,000	1.7	3000	AN
28PSB	28.0	.04	5,000	1.1	1600	AN
48PSB	48.0	.053	7,500	2.5	1800	AN
60PSB	60.0	.05	7,500	3.0	2600	AP
120PSB	120.0	.025	10,000	3.0	1200	AO

SERIES 3060 PILOT LIGHTS (FIG. I)

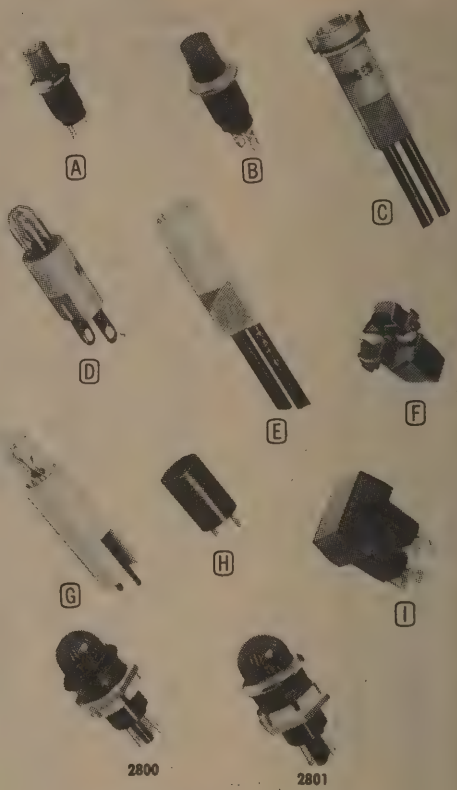
Complete assembly consists of socket, lens and pilot lamp; components must be ordered separately, but can be supplied assembled, on request, at no extra charge. Socket supplied with No. SN0461 push-on Speednut. Polycarbonate lens, round or square. Black phenolic body. Q.C. terminals.

LENSES

Lens Color	IDI No. Round Lens	IDI No. Square Lens	Price Code
Red	3111	3121	AD
Clear	3112	3122	AD
Amber	3113	3123	AD
White	3114	3124	AD
Green	3115	3125	AD
Blue	3116	3126	AD
Yellow	3117	3127	AD

SOCKET

IDI No.	Description	Price Code
3060	Black phenolic socket	AJ



MINI-SLIDE PILOT LIGHTS (CONT'D)

SERIES 2800 PILOT LIGHTS (FIG. J)

Complete assembly consists of socket, lens and pilot light; components must be ordered separately, but can be supplied assembled, on request, at no extra charge. Type No. 2800 has black phenolic bezel, type No. 2801 has polished stainless steel bezel. Both use pilot type (long) lamps. Polycarbonate lens with choice of seven colors. Black phenolic body. Nickel-plated brass solder lug terminals.

LENSES

Lens Color	IDI No.	Price Code	Lens Color	IDI No.	Price Code
Red	2811	AC	Green	2815	AC
Clear	2812	AC	Blue	2816	AC
Amber	2813	AC	Yellow	2817	AC
White	2814	AC			

SOCKETS

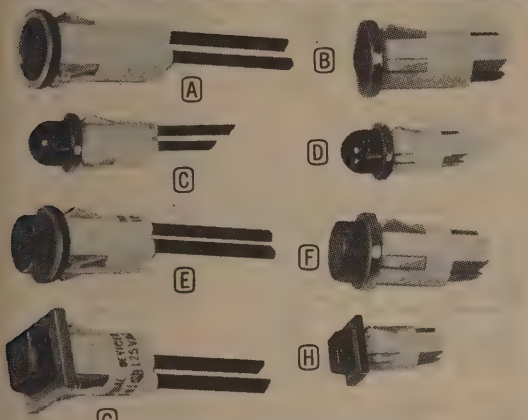
IDI No.	Description	Price Code
2800	Socket with black phenolic bezel	AM
2801	Socket with stainless steel bezel	AN

PRICING

Price Code	Net Each, Lots of 1-24	25-99	100-249	250-499	500-999	1000-2499
AA	$0.29	$0.26	$0.23	$0.21	$0.17	$0.13
AB	.30	.27	.24	.22	.18	.14
AC	.33	.24	.21	.19	.17	.15
AD	.36	.26	.23	.20	.18	.17
AE	.40	.36	.32	.29	.24	.19
AF	.42	.38	.34	.31	.25	.20
AG	.44	.39	.35	.32	.26	.20
AH	.46	.41	.37	.34	.28	.21
AI	.58	.52	.46	.42	.35	.27
AJ	.72	.53	.46	.41	.36	.34
AK	.72	.65	.57	.53	.43	.33
AL	.72	.65	.58	.53	.43	.34
AM	.74	.66	.59	.54	.44	.34
AN	1.43	1.05	.90	.81	.71	.67
AO	1.61	1.18	1.02	.91	.80	.75
AP	1.65	1.21	1.04	.93	.82	.77

*Reg. Eaton Corp. TM.

NON-RELAMPABLE INDICATOR LIGHTS



NEON INDICATOR LIGHTS OMNI-GLOW 1000 SERIES

Choice of 105-125 or 208-250 VAC versions, each with appropriate current-limiting resistor. Four lens styles available. Lights can be mounted easily by push-on Speednut (not supplied) or will snap-fit into 1/2" dia. hole in .020"-.100" thick panel. UL recognized; CSA approved.

SERIES 1030D (FIG. A) AND 1030QD (FIG. B)

Termination: Series 1030D, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 1030QD, .187" Q.C. terminals. **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon.

Lens Color	Wire Leads IDI No. 115 VAC	Wire Leads IDI No. 220 VAC	Price Code	Q.C. Terminals IDI No. 115 VAC	Q.C. Terminals IDI No. 220 VAC	Price Code
Red	1030D1	1031D1	AA	1030QD1	1031QD1	AC
Amber	1030D3	1031D3	AA	1030QD3	1031QD3	AC
White	1030D4	1031D4	AA	1030QD4	1031QD4	AC
Green	1032D5	1033D5	AG	1032QD5	1033QD5	AK

SERIES 1050A (FIG. C) AND 1050QA (FIG. D)

Termination: Series 1050A, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 1050QA, .187" Q.C. terminals. **Lens:** Models 1050A1, 1050A3 and 1050A4, nylon; all others, polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon.

Lens Color	Wire Leads IDI No. 115 VAC	Wire Leads IDI No. 220 VAC	Price Code	Q.C. Terminals IDI No. 115 VAC	Q.C. Terminals IDI No. 220 VAC	Price Code
Red	1050A1	1051A1	AA	1050QA1	1051QA1	AC
Clear	1050A2	1051A2	AA	1050QA2	1051QA2	AC
Amber	1050A3	1051A3	AA	1050QA3	1051QA3	AC
White	1050A4	1051A4	AA	1050QA4	1051QA4	AC
Green	1052A5	1053A5	AG	1052QA5	1053QA5	AK

SERIES 1050C (FIG. E) AND 1050QC (FIG. F)

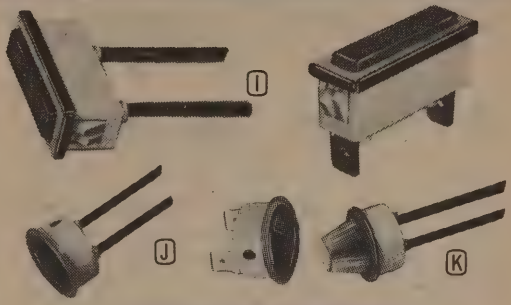
Termination: Series 1050C, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 1050QC, .187" Q.C. terminals. **Lens:** Models: 1050CL, 1050C3 and 1050C4, nylon; all others, polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon.

Lens Color	Wire Leads IDI No. 115 VAC	Wire Leads IDI No. 220 VAC	Price Code	Q.C. Terminals IDI No. 115 VAC	Q.C. Terminals IDI No. 220 VAC	Price Code
Red	1050C1	1051C1	AA	1050QC1	1051QC1	AC
Amber	1050C3	1051C3	AA	1050QC3	1051QC3	AC
White	1050C4	1051C4	AA	1050QC4	1051QC4	AC
Green	1052C5	1053C5	AG	1052QC5	1053QC5	AK

SERIES 1050N (FIG. G) AND 1050QN (FIG. H)

Termination: Series 1050N, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 1050QN, .187" Q.C. terminals. **Lens:** polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon. For 105-125 VAC.

Lens Color	Wire Leads IDI No.	Wire Leads Price Code	Q.C. Terminals IDI No.	Q.C. Terminals Price Code
Red	1050N1	AC	1050QN1	AF
Amber	1050N3	AC	1050QN3	AF
White	1050N4	AC	1050QN4	AF
Green	1052N5	AK	1052QN5	AN



LINE-O-LITE RECTANGULAR INDICATOR LIGHTS

Rectangular indicator lights provide a perfect assembly for illuminating a message or highlighting a function. Supplied with built-in, current-limiting resistor. Snap-fit mounting. Supplied with or without snap-on Speednut (specify when ordering). UL recognized; CSA approved.

SERIES 2330D AND 2330QD (FIG. I)

Termination: Series 2330D, No. 22 AWG, 105° C, wire leads, 4 1/2" long, stripped 1/2"; Series 2330QD, .250" Q.C. terminals. **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. For 105-125 VAC.

Color	Wire Leads IDI No.	Wire Leads Price Code	Q.C. Terminals IDI No.	Q.C. Terminals Price Code
Red	2330D1	AD	2330QD1	AB
Amber	2330D3	AD	2330QD3	AB
White	2330D4	AD	2330QD4	AB
Green	2332D5	AL	2332QD5	AJ

OMNI-GLOW SERIES 2620K AND 2620QK (FIG. J)

Extra-large indicator lights. **Termination:** Series 2620K, No. 22 AWG, 105° C, wire leads, 4 1/2" long, stripped 1/2"; Series 2620QK, .250" Q.C. terminals. **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. UL recognized; CSA approved. For 105-125 VAC.

SERIES 2620K AND 2620QK (CONT'D)

Color	Wire Leads IDI No.	Wire Leads Price Code	Q.C. Terminals IDI No.	Q.C. Terminals Price Code
Red	2620K1	AE	2620QK1	AD
Amber	2620K3	AE	2620QK3	AD
White	2620K4	AE	2620QK4	AD
Green	2622K5	AM	2622QK5	AL

SERIES 2620T (FIG. K)

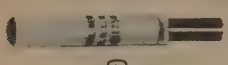
Termination: No. 22 AWG, 105° C, wire leads, 4 1/2" long, stripped 1/2". **Lens:** Polycarbonate. **Bezel:** Mirror-finish, chrome-plated brass. **Housing:** White nylon. For 105-125 VAC.

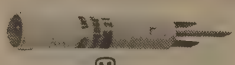
Color	IDI No. 105-125 VAC	Price Code	IDI No. 208-250 VAC	Price Code
Red	2620T1	AI	2621T1	AH
Amber	2620T3	AI	2621T3	AH
Green	2622T5	AO	2623T5	AO

PRICING

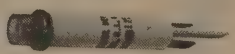
Price Code	Net Each, Lots of 1-24	25-99	100-249	250-499	500-999	1000-2499
AA	$1.22	$1.10	$0.98	$0.90	$0.73	$0.57
AB	1.30	1.17	1.04	.95	.78	.61
AC	1.33	1.19	1.06	.97	.80	.62
AD	1.37	1.24	1.10	1.01	.82	.64
AE	1.41	1.27	1.13	1.03	.84	.66
AF	1.43	1.29	1.14	1.05	.86	.67
AG	1.70	1.53	1.36	1.25	1.02	.80
AH	1.71	1.54	1.37	1.25	1.02	.80
AI	1.74	1.57	1.39	1.28	1.04	.81
AJ	1.78	1.60	1.43	1.31	1.07	.83
AK	1.81	1.63	1.45	1.33	1.09	.84
AL	1.86	1.67	1.49	1.36	1.11	.87
AM	1.89	1.70	1.51	1.39	1.13	.88
AN	1.91	1.72	1.53	1.40	1.15	.89
AO	2.22	2.00	1.78	1.63	1.33	1.04

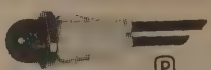
NON-RELAMPABLE & LED INDICATOR LIGHTS


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GLOW DOT SERIES MINIATURE INDICATOR LIGHTS

Tamper-proof housings, elimination of sockets and spring contacts, and rugged shock-proof design combine to provide highest reliability. Supplied with built-in current-limiting resistor. Snap-fit or Speednut mounting. UL recognized; CSA approved. 5/16" dia. body.

SERIES 2110A (FIG. L) AND 2110Q (FIG. M)

Termination: Series 2110A, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 2110QA, .187" Q.C. terminals. **Lens:** Polycarbonate. **Housing:** White nylon. For 105-125 VAC. **Bezel:** .34" dia. × .19" high. For 105-125 VAC.

Lens Color	Wire Leads		Q.C. Terminals	
	IDI No.	Price Code	IDI No.	Price Code
Red	2110A1	AC	2110QA1	AE
Clear	2110A2	AC	2110QA2	AE
Amber	2110A3	AC	2110QA3	AE
White	2110A4	AC	2110QA4	AE
Green	2112A5	AI	2112QA5	AK

SERIES 2150A (FIG. N) AND 2150QA (FIG. O)

Termination: Series 2150A, No. 22 AWG, 105° C, insulated wire leads, 4 1/2" long, stripped 1/2"; Series 2150QA, .187" Q.C. terminals. **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon. For 105-125 VAC.

Lens Color	Wire Leads		Q.C. Terminals	
	IDI No.	Price Code	IDI No.	Price Code
Red	2150A1	AD	2150QA1	AF
Amber	2150A3	AD	2150QA3	AF
White	2150A4	AD	2150QA4	AF
Green	2152A5	AJ	2152QA5	AL

OMNI-GLOW SERIES 2650T FLASHERS (FIG. P)

Neon flashers incorporate a built-in flasher circuit to provide unmistakable indication, even in high ambient light conditions. Supplied with push-on Speednut. **Termination:** No. 22 AWG, 105° C, wire leads, 4.4-4.8" long, stripped .43-.57". **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. Flashing rate is 60 to 120 per minute.

Lens Color	IDI No.	Price Code	Lens Color	IDI No.	Price Code
Red	2650T1	AO	Amber	2650T3	AO

PANEL MOUNTED LEDs

SERIES 5210F



An insulated lead subminiature SUPER BRITE LED that offers superior performance in an economical package. The plastic lens gives extra protection against static discharge. **Mounting:** Will snap into .187-.192" hole in panel .020-.097" thick. **Termination:** No. 26 AWG, wire leads, 4.4-4.8" long, stripped .43-.57". **Anode:** Red lead. **Lens:** Polycarbonate.

Lens Color	IDI Model	LED Used	Price Code
Red	5210F1	4303F1	AN
Green	5210F5	4303F5	AN
Yellow	5210F7	4303F7	AN

LED LENSES

SERIES 4331

Designed for T-1 size LEDs, these plastic lenses provide protection against electrostatic discharge.

Lens Color	IDI No.	Price Code	Lens Color	IDI No.	Price Code
Red	4331	AA	Yellow	4337	AA
Green	4335	AA			

INCANDESCENT INDICATOR LIGHTS

OMNI-GLOW SERIES

General purpose incandescent indicator lights. **Termination:** No. 22 AWG, 105° C, wire leads, 4 1/2" long, stripped 1/2". **Lens:** Polycarbonate. **Bezel:** Chrome-plated brass. **Housing:** White nylon.

Lens Color	IDI No.			Price Code
	6 V	12 V	28 V	
SERIES 1090A (FIG. Q)				
Red	1090A1-6V	1090A1-12V	1090A1-28V	AH
Amber	1090A3-6V	1090A3-12V	1090A3-28V	AH
White	1090A4-6V	1090A4-12V	1090A4-28V	AH
Green	1090A5-6V	1090A5-12V	1090A5-28V	AH
Blue	1090A6-6V	1090A6-12V	1090A6-28V	AH

GLOW-DOT SERIES—MINIATURE

Termination: No. 24 AWG wire leads, 4 1/2" long, stripped 1/2". **Lens:** Polycarbonate. **Bezel:** Mirror finish chrome-plated steel (Series 2990P).

Lens Color	IDI No.			Price Code
	6 V	12 V	28 V	
SERIES 2990D (FIG. R)				
Red	2990D1-6V	2990D1-12V	2990D1-28V	AG
Amber	2990D3-6V	2990D3-12V	2990D3-28V	AG
White	2990D4-6V	2990D4-12V	2990D4-28V	AG
Green	2990D5-6V	2990D5-12V	2990D5-28V	AG
Blue	2990D6-6V	2990D6-12V	2990D6-28V	AG
SERIES 2990P (FIG. S)				
Red	2990P1-6V	2990P1-12V	2990P1-28V	AM
Amber	2990P3-6V	2990P3-12V	2990P3-28V	AM
White	2990P4-6V	2990P4-12V	2990P4-28V	AM
Green	2990P5-6V	2990P5-12V	2990P5-28V	AM
Blue	2990P6-6V	2990P6-12V	2990P6-28V	AM

PRICING

Price Code	Net Each, Lots of					
	1-24	25-99	100-249	250-499	500-999	1000-2499
AA	$0.25	$0.23	$0.20	$0.18	$0.15	$0.12
AB	.57	.51	.45	.42	.34	.26
AC	1.21	1.09	.96	.88	.72	.56
AD	1.28	1.16	1.03	.94	.77	.60
AE	1.31	1.18	1.05	.96	.79	.61
AF	1.39	1.25	1.11	1.02	.83	.65
AG	1.59	1.43	1.27	1.17	.96	.74
AH	1.61	1.45	1.29	1.18	.96	.75
AI	1.69	1.52	1.35	1.24	1.01	.79
AJ	1.77	1.59	1.41	1.30	1.06	.82
AK	1.79	1.61	1.44	1.32	1.08	.84
AL	1.87	1.68	1.50	1.37	1.12	.87
AM	1.91	1.72	1.53	1.40	1.14	.89
AN	1.92	1.73	1.54	1.41	1.15	.90
AO	4.44	4.00	3.55	3.26	2.66	2.07

BARE LEDs

SERIES 4304S



SUPER-BRITE LEDs with wide angle viewing.

Lens Color	IDI No.	Price Code	Lens Color	IDI No.	Price Code
Red	4304S1	AB	Yellow	4304S7	AB
Green	4304S5	AB			

LEDs

IDI SUPER-BRITE LEDs incorporate state-of-the-art construction with GaAsP on GaP for red and yellow and high efficiency GaP on GaP for green SUPER-BRITE LEDs are the brightest, most efficient LEDs currently available.

BARE LEDs

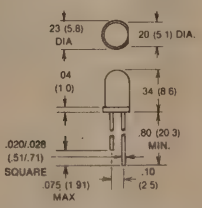
Due to the operating parameters of bare LEDs, your circuit must include appropriate current-limiting impedance, plus a rectifier diode for AC applications above 3 V or where DC transients above 3 V may be encountered. For optimum operation, forward current should be approximately 10 to 15 mA, and generally, should not exceed 20 mA average. Operation and Storage Temperature Range (all LEDs): −55° C to +100° C. For complete ratings, ask for IDI catalog.

SUGGESTED RESISTOR VALUES

Supply Voltage	Series Resistor, Ohms	
	AC	DC
6 V	100	220
12 V	330	680
28 V	750	1500

DUAL-COLOR LED



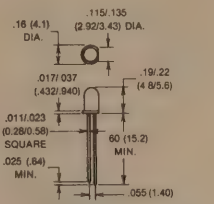


T-1 3/4 size LED provides both red and green light output. Two chips are connected in reverse parallel and the supply voltage polarity is switched to determine which chip emits. Chips are brightness matched to ensure uniform red and green outputs.

IDI Model 4301H1/5—Price Code ..... AC

SERIES 4303F



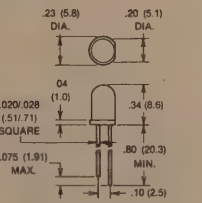


T-1 subminiature LED has ultra-high output—5 mcd is typical. Wide view angle of 90°.

Lens Color	IDI No.	Price Code	Lens Color	IDI No.	Price Code
Red	4303F1	AA	Yellow	4303F7	AA
Green	4303F5	AA			

SERIES 4304H AND 4305H





T-1 3/4 size LED has ultra-high output over a wide angle (Series 4304H) or a narrow beam (Series 4305H).

Lens Color	IDI No.	Viewing Angle	Luminous Intensity mcd at 20 mA		Price Code
			Min.	Typ.	
Red	4304H1	65°	3	6	AA
Green	4304H5	65°	6	7.5	AA
Yellow	4304H7	65°	2.5	6	AA
Red	4304H1	28°	17	40	AA
Green	4305H5	28°	30	34	AA
Yellow	4305H7	28°	10	45	AA

SERIES 4307T



Subminiature, low-profile package has radial leads and is end stackable on .108" centers. Wide view angle.

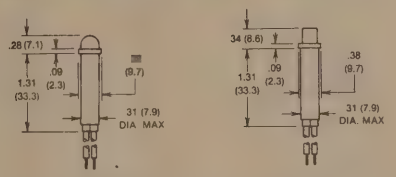
Color	IDI No.	Price Code
Red	4307T1	AA
Green	4307T5	AA
Yellow	4307T7	AA

PANEL-MOUNT LEDs

Panel-mount LEDs incorporate ultra-high intensity SUPER-BRITE LEDs, except for Model 5100H1/5, which features a dual-color, red/green LED.

SERIES 2191L AND 2191U—5/16" DIAMETER





Each assembly includes an LED, a current-limiting resistor and a 200 PIV rectifier diode. A push-on Speednut is supplied with each unit. Leads are No. 22 AWG, 105° C, 4.4-4.8" long and stripped .43-.57". Bezel is chrome-plated brass. Housing is white nylon.

VOLTAGE TABLE

Nominal	VAC	VDC
6 V	5 to 11 V	3.5 to 6.5 V
12 V	10 to 20 V	6 to 13.5 V
24 V*	22 to 32 V	12 to 24 V

*To use 24 V model above 32 VAC, add 30 ohms/volt; above 24 VDC, add 50 ohms/volt. Use 1/2W resistor up to 50 V; 1 W from 50 to 70 V; 2 W from 75 to 125 V. Do not use beyond 125 V.

Lens Color	LED Used	IDI No.			Price Code
		6 V	12 V	24 V	
Red	4304H1	2191L1-6V	2191L1-12V	2191L1-24V	AD
Green	4304H5	2191L5-6V	2191L5-12V	2191L5-24V	AD
Yellow	4304H7	2191L7-6V	2191L7-12V	2191L7-24V	AD
Red	4304H1	2191U1-6V	2191U1-12V	2191U1-24V	AD
Green	4304H5	2191U5-6V	2191U5-12V	2191U5-24V	AD
Yellow	4304H7	2191U7-6V	2191U7-12V	2191U7-24V	AD

SERIES 3990A—7/32" DIAMETER



Snap-fits into .217-.221" diam. hole in .031-.062" thick panel. PVC insulated No. 24 AWG wire leads, 4.4-4.8" long, stripped .43-.57". Red lead indicates anode (+). White nylon housing.

Lens Color	IDI Model	LED Used	Price Code
Red	3990A1	4303F1	AB
Green	3990A5	4303F5	AB
Yellow	3990A7	4303F7	AB

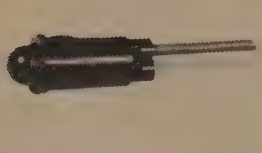
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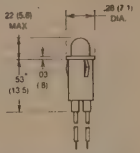
Price Code	Net Each, Lots of					
	1-24	25-99	100-249	250-499	500-999	1000-2499
AA	$0.57	$0.51	$0.45	$0.42	$0.34	$0.26
AB	1.73	1.55	1.38	1.27	1.04	.81
AC	1.76	1.58	1.40	1.29	1.05	.82
AD	2.19	1.97	1.75	1.61	1.32	1.02

LISTING CONTINUED ON FOLLOWING PAGE

PANEL-MOUNTED LEDs (CONT'D)

SERIES 5100H—1/4" DIAMETER



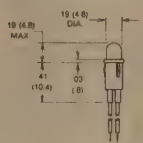


Snap-fits into .249-.254" hole in .031-.062" thick panel. No. 24 AWG wire leads, 4.4-4.8" long, stripped .43-.57". Red lead indicates anode (+) for Models 5100H1, 5100H5 and 5100H7; yellow lead indicates anode for red light and blue lead indicates anode for green light of Model 5100H1/5. Black nylon housing.

Lens Color	IDI Model	LED Used	Price Code
Red	5100H1	4304H1	AF
Green	5100H5	4304H5	AF
Yellow	5100H7	4304H7	AF
Red/Green	5100H1/5	4304H1/5	AG

SERIES 5110F—5/32" DIAMETER



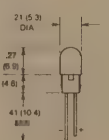


Snap-fits into .155-.158" diam. hole in .031-.062" thick panel. PVC insulated No. 26 AWG wire leads 4.4-4.8" long, stripped .43-.57". Red lead indicates anode (+). Black nylon housing.

Lens Color	IDI Model	LED Used	Price Code
Red	5110F1	4303F1	AF
Green	5110F5	4303F5	AF
Yellow	5110F7	4303F7	AF

SERIES 5200F—3/16" DIAMETER



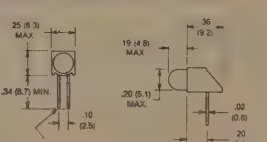


Snap-fits into .187-.92" diam. hole in .020-.097" thick panel. Wide viewing angle. Polycarbonate lens.

Lens Color	IDI Model	LED Used	Price Code
Red	5200F1	4303F1	AE
Green	5200F5	4303F5	AE
Yellow	5200F7	4303F7	AE

P.C. BOARD MOUNTED LEDs





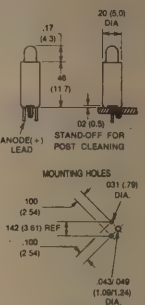
Printed-circuit-board mounted LED assemblies feature press-in mounting for precise location on the board. Easy to mount. High contrast ratio. Built-in board standoff prevents flux entrapment and permits easy washing.

SERIES 5300H

Lens Color	IDI Model	LED Used	Price Code
Red	5300H1	4304H1	AB
Green	5300H5	4304H5	AB
Yellow	5300H7	4304H7	AB

SERIES 5310F



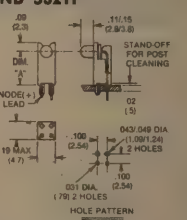


Subminiature LEDs ideal for use where the LED must align with opening in a cover panel. Black nylon housing.

Lens Color	IDI Model	LED Used	Price Code
Red	5310F1	4303F1	AC
Green	5310F5	4303F5	AC
Yellow	5310F7	4303F7	AC

SERIES 5320F AND 5321F

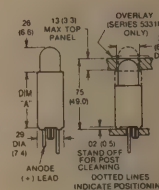




Lens Color	IDI Model	LED Used	Dim. "A"	Price Code
Red	5320F1	4303F1	.35"	AD
Green	5320F5	4303F5	.35"	AD
Yellow	5320F7	4303F7	.35"	AD
Red	5321F1	4303F1	.45"	AD
Green	5321F5	4303F5	.45"	AD
Yellow	5321F7	4303F7	.45"	AD

SERIES 5330H AND 5331H





T-1 3/4 size with wide viewing angle (Series 5330H) or an intense beam (Series 5331H). Height matches popular rocker and toggle switches. Use Series 5331H to fit panel openings; use Series 5331H to line up behind panel overlays. Black nylon housing.

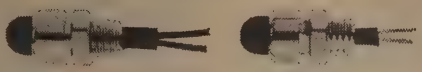
Lens Color	IDI Model	LED Used	Dim. "A"	Price Code
Red	5330H1	4304H1	.61"	AA
Green	5330H5	4304H5	.61"	AA
Yellow	5330H7	4304H7	.61"	AA
Red	5331H1	4304H1	.46"	AA
Green	5331H5	4304H5	.46"	AA
Yellow	5331H7	4304H7	.46"	AA

PRICING

Price Code	Net Each, Lots of					
	1-24	25-99	100-249	250-499	500-999	1000-2499
AA	$0.91	$0.82	$0.73	$0.67	$0.55	$0.42
AB	.92	.82	.73	.67	.55	.43
AC	.95	.85	.76	.70	.57	.44
AD	.96	.86	.77	.70	.58	.45
AE	1.29	1.16	1.03	.95	.77	.60
AF	1.65	1.49	1.32	1.21	.99	.77
AG	2.98	2.68	2.38	2.18	1.79	1.39

Indicator Lights and Lampholders

SERIES L58 SOLID-STATE LED INDICATOR LIGHTS



L58-W L58-T

High brightness, gallium phosphide LED's for computer, numerical control, medical equipment and many other electronics applications. Features include: 100,000 hour minimum life expectancy, low voltage/low current, fast response, ruggedness and wide viewing angle. **Forward voltage:** 2.8 VDC max. **Reverse voltage:** 5.0 VDC max. **Forward current:** 50 mA max. **Power dissipation:** 100 mW max. **Operating temperature:** −55° C to +100° C. **Luminous intensity:** 3.0 mcd, typ. Mounts in .191" dia. hole.

Leecraft No.	Color	Leads	Net Each 1-24	Net Each 25-99	Net/100 100-249
L58-R2-W	Red	Ins.	$2.58	$2.27	$169.75
L58-R2-T	Red	Bare	1.60	1.29	118.45
L58-G2-W	Green	Ins.	2.58	2.27	169.75
L58-G2-T	Green	Bare	1.60	1.29	118.45
L58-Y2-W	Yellow	Ins.	2.58	2.27	169.75
L58-Y2-T	Yellow	Bare	1.60	1.29	118.45

SERIES L59 SOLID-STATE LED INDICATOR LIGHTS



New gallium phosphide LEDs with low-cost, black, molded plastic housing. Press fits in ¼" mounting hole. Speed nuts (supplied) provide maximum retention. Available with bare wire type leads (Suffix T) or color-coded, 6-inch, insulated wire leads (Suffix W). An insulated dropping resistor is built into the positive lead for 6-, 12- and 24-volt versions. Lamp specifications are identical to Series L58 (listed above).

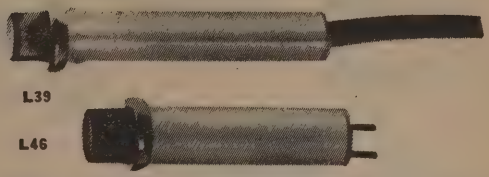
Leecraft No.	Color	Volts	Net Each 1-24	Net Each 25-99	Net/100 100-249
L59-R2-T	Red	2.3	$0.77	$0.62	$ 46.35
L59-R2-W	Red	2.3	1.60	1.44	127.72
L59-R6-W	Red	6	1.96	1.75	153.47
L59-R12-W	Red	12	1.96	1.75	153.47
L59-R24-W	Red	24	1.96	1.75	153.47
L59-G2-T	Green	2.3	.77	.62	46.35
L59-G2-W	Green	2.3	1.60	1.44	127.72
L59-G6-W	Green	6	1.96	1.75	153.47
L59-G12-W	Green	12	1.96	1.75	153.47
L59-G24-W	Green	24	1.96	1.75	153.47
L59-Y2-T	Yellow	2.3	.77	.62	46.35
L59-Y2-W	Yellow	2.3	1.60	1.44	127.72
L59-Y6-W	Yellow	6	1.96	1.75	153.47
L59-Y12-W	Yellow	12	1.96	1.75	153.47
L59-Y24-W	Yellow	24	1.96	1.75	153.47

SERIES 49 MIDGET SCREW INDICATORS

Midget indicators for alarm devices, medical equipment, control panels, instrumentation, and other electronics applications. Supplied with incandescent lamp, installed, in choice of 6-7, 12-14, or 24-28 volts. Lens available include flat **F** or dome **D** shapes of translucent plastic in red (suffix **-51**), green (suffix **-52**), amber (suffix **-53**), white (suffix **-55**), or yellow (suffix **-56**). Other colors available upon request. Mount in 7/16" dia hole in panels up to ¼" max thickness.

Leecraft No.	Volts	Lens	Net Each 25-99	Net/100 100-249	Net/100 250-499
49D-V1-	6–7	Dome	$2.83	$154.19	$135.38
49D-V2-	12–14	Dome	2.83	154.19	135.38
49D-V3-	24–28	Dome	3.25	197.20	171.77
49F-V1-	6–7	Flat	2.83	154.19	135.38
49F-V2-	12–14	Flat	2.83	154.19	135.38
49F-V3-	24–28	Flat	3.25	197.20	171.77

SOLID-STATE LED INDICATORS



L39

L46

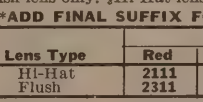
Gallium phosphide LED's in red, green and yellow for optimum light output and long life. Mount in 5/16" dia hole. Series L45R and L46R are friction fit; speed nut is furnished for maximum security. Series L39U is snap-in type, also available with tabs. Available lenses include plastic hi-hat or flush, both transparent. Bezels are supplied on hi-hat lenses, optional on flat lenses. Connections are by 6" wire leads for Series L39 and L41, 3/16" male tabs for Series L45 and .040" male pins for Series L46. White housing. First suffix indicates LED color and voltage, e.g., L39UR-R6 is a red LED, 6 volts.

Leecraft No.*	Available Lens Color(s)	Net Each 25-99	Net per 100 100-249	Net per 100 250-499
L39UR-R6	Red, White, Clear	$2.25	$166.00	$152.00
L39UR-R12	Red, White, Clear	2.25	166.00	152.00
L39UR-R24	Red, White, Clear	2.25	166.00	152.00
L39UR-G6	Grn.§, Wh.§, Clr.§	2.25	166.00	152.00
L39UR-G6	Grn.†, Wh.†, Clr.†	2.35	176.00	162.00
L39UR-G12	Grn.†, Wh.†, Clr.†	2.35	176.00	162.00
L39UR-G12	Grn.§, Wh.§, Clr.§	2.25	166.00	152.00
L39UR-G24	Green, White, Clear	2.25	166.00	152.00
L39UR-Y6	Yellow†	2.35	176.00	162.00
L39UR-Y12	Yellow†	2.35	176.00	162.00
L39UR-Y24	Yellow†	2.35	176.00	162.00
L39UR-Y24	Yellow§	2.25	166.00	152.00
L41EN-R6	Red†	2.39	160.92	131.99
L41EN-R6	Red§, Wh., Clr.	2.35	156.92	128.39
L41EN-R12	Red, White, Clear	2.35	156.92	128.39
L41EN-R24	Red§	2.35	156.92	128.39
L41EN-G6	Green†	2.35	156.92	128.39
L41EN-G6	Grn.§, Wh., Clr.	2.37	158.92	130.19
L41EN-G12	Grn., Wh.§, Clr.	2.37	158.92	130.19
L41EN-Y6	Yellow†	2.37	158.92	130.19
L41EN-Y12	Yellow†	2.37	158.92	130.19
L41EN-Y24	Yellow†	2.37	158.92	130.19
L41EN-Y24	Yellow§	2.37	158.92	130.19
L45RN-R6	Red§, White§	2.59	189.00	170.64
L45RN-R6	Red†, Wh.†, Clr.	2.70	199.80	181.44
L45RN-G6	Green, White, Clear	2.59	189.00	170.64
L45RN-G12	Green, White, Clear	2.59	189.00	170.64
L45RN-G24	Green, White, Clear	2.59	189.00	170.64
L45RN-Y6	Yellow	2.59	189.00	170.64
L45RN-Y12	Yellow	2.59	189.00	170.64
L45RN-Y24	Yellow	2.59	189.00	170.64
L46RN-R6	Red†, White†	2.79	187.26	153.54
L46RN-R6	Clear†	2.79	187.26	153.54
L46RN-R6	Red§, Wh.§, Clr.§	2.75	183.26	149.94
L46RN-R12	Red, White, Clear	2.75	183.26	149.94
L46RN-R24	Red, White, Clear	2.75	183.26	149.94
L46RN-G6	Grn.†, Wh.†, Clr.†	2.71	180.80	147.92
L46RN-G6	Grn.§, Wh.§, Clr.§	2.77	185.26	151.74
L46RN-G12	Grn.†, Wh.†, Clr.†	2.77	185.26	151.74
L46RN-G24	Green, White, Clear	2.77	185.26	151.74
L46RN-Y6	Yellow	2.73	182.80	149.72
L46RN-Y12	Yellow	2.73	182.80	149.72
L46RN-Y24	Yellow	2.73	182.80	149.72

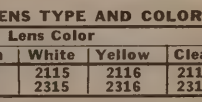
†Flush lens only. §Hi-Hat lens only.

***ADD FINAL SUFFIX FOR LENS TYPE AND COLOR**

Lens Type	Lens Color: Red	Green	White	Yellow	Clear
Hi-Hat	2111	2112	2115	2116	2117
Flush	2311	2312	2315	2316	2317



49D



49F

LAMPHOLDERS FOR T-1 3/4 SUBMINIATURE WEDGE-BASE LAMPS

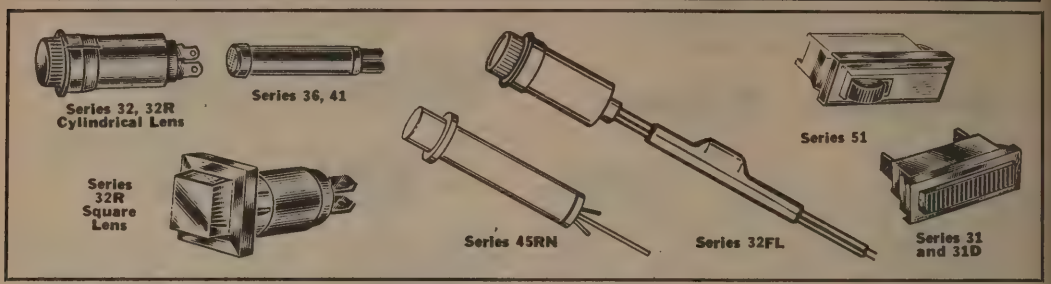
Series 53-00 Wedge-Base Lampholder—Ultra-compact lampholder minimizes space requirements. Lamps can be inserted or removed without tools. Lamps seat firmly in socket and will not freeze nor shake loose. A variety of mounting styles are optional including horizontal and vertical brackets for PC boards. Any number of sockets can be mounted on a strip, or wired to customer specifications. **No. 53-07:** With 7/16" male tab terminals that fit female quick-connect terminals. **No. 53-207:** With built-in wire leads 6" long, stripped ½" at ends, UL rated at 80° C, black.



53-07

Leecraft No.	Net Each 25-99	Net/100 100-249	Net/100 250-499
53-07	$0.81	$54.27	$28.81
53-207	.98	56.89	34.57

LEECRAFT Indicator Lights



SERIES 32, 32R AND 35 SNAPLITE™ INDICATOR LIGHTS

UL and CSA Approved. Wide variety of lens and housing colors. Available with either high brightness neon or miniature incandescent lamps. Supplied with 6″ insulated 18-ga. wire leads; available with .187″ tab terminals at slightly higher price by adding suffix **T** to model (e.g., 32-G1-2111**T**).

WITH CYLINDRICAL LENS*

Leecraft No.*	Rating		Net Ea.^	Net per 100^	
	Volts	mA	25-99	100-249	250-499
32†	110–125	§	$1.81	109.61	$94.08
32G1	6.3	200	2.40	143.62	130.56
32G2	6	44	2.76	176.21	158.28
32G3	14	80	2.54	148.42	137.12
32G5	28	40	2.40	142.27	131.10
35†	210–250	§	1.81	109.61	94.08

WITH CHROME BEZELS*

Leecraft No.*‡	Rating		Net Ea.^	Net per 100^	
	Volts	mA	25-99	100-249	250-499
32R†	110–125	§	$1.96	116.86	101.31
32RG1	6.3	200	2.54	151.98	136.84
32RG2	6	40	2.88	184.46	158.81
32RG3	14	80	2.67	156.81	142.85
32RG5	28	40	2.56	150.33	138.63
35R†	210–250	§	1.96	116.86	101.31

†Neon; all others incandescent. ‡Fits .500″–.513″ hole size; for .514″–.519″ hole size, add letter **C** (i.e., 32**C**R, 32**C**RG1, etc); same price. §⅓ W. ^Prices listed are for white housing; black and red housings priced slightly higher.

* ADD LENS, COLOR SUFFIXES

Add suffix for lens and housing color desired. (Example: 32-**1113** = indicator with black housing and amber lens.) Add **T** designation to end of color suffix when ordering indicator with tab terminals. (Example: 32-1113**T** = indicator with black housing, amber lens and tab terminals.)

*FLAT CYLINDRICAL LENS

Housing Color•	Lens Color			
	Red	Amber	Clear	White
Black	1111	1113	1117	1115
White	2111	2113	2117	2115
Red#	3111	3113	3117	3115

*DOME LENS

Black	1211	1213	1217	1215
White	2211	2213	2217	2215
Red#	3211	3213	3217	3215

*FLUSH TYPE LENS

Black	1311	1313	1317	1315
White	2311	2313	2317	2315
Red#	3311	3313	3317	3315

*HI-HAT TYPE LENS

Black	1511	1513	1517	1515
White	2511	2513	2517	2515
Red#	3511	3513	3517	3515

*FLUSH SQUARE

White	R2711	R2713	R2717	R2715

*SQUARE LENS

White	R2911	R2913	R2917	R2915

#Available only in minimum quantity of 250. *Black and red housings available only with neon lamps.

SERIES 36 AND 41 TINEON™ MINIATURE INDICATORS

Supplied with either high brightness neon or miniature incandescent lamps. Fits 5/16″ dia. hole; includes speed nut. Series 41-00 used with incandescent lamps or neon lamps without resistor. Series 36-00 supplied with neon lamps and built-in resistor. Available with one or two-digit legends hot stamped on lens and in multiple strip assemblies. Available with or without bezel in a variety of housing colors, with flush and hi-hat lens. Wire leads, 5/16″ mtg. hole.

WITHOUT ALUMINUM BEZEL

Leecraft No.*	Rating		Net Ea.^	Net per 100^	
	Volts	mA	25-99	100-249	250-499
36N†	110–125	‡	$1.73	109.61	$94.08
36HN†	210–250	‡	1.73	109.61	94.08
41N†	250 max	‡	1.67	110.63	88.91
41NG1	6.3	200	2.14	139.41	126.96
41NG2	6	40	2.58	176.54	157.25
41NG3	14	80	2.25	144.16	132.87
41NG5	28	40	2.14	139.07	127.46

WITH ALUMINUM BEZEL

36EN†	110–125	‡	$2.06	134.20	110.88
36HEN†	210–250	‡	2.06	134.20	110.88
41EN†	250 max	‡	2.08	130.45	107.06
41ENG1	6.3	200	2.21	153.37	136.07
41ENG2	6	40	2.91	199.28	174.06
41ENG3	14	80	2.54	155.63	142.09
41ENG5	28	40	2.38	153.77	138.04

†Neon; all others incandescent. ‡⅓ W. ^Prices listed are for white housing; black and red housings priced the same or slightly higher.

*ADD LENS, COLOR SUFFIXES 36-N AND HN, 41-N COLORS

Add suffix for color desired. (Example: 36HN-**3311** = indicator with red housing and red lens.)

Housing Color	Lens Color			
	Red	Amber	White	Clear
Black	1311	1313	1315	1317
White	2311	2313	2315	2317
Red	3311	3313	3315	3317
Gray	7311	7313	7315	7317

36-EN AND HEN, 41-EN COLORS

Add suffix for color desired. (Example: 36HEN-**2311** = 210–250 volts with red flush type lens.) With aluminum bezel, white housing.

Lens	Red	Amber	Clear	White
Flush	2311	2313	2317	2315
Hi-Hat	2111	2113	2117	2115

SERIES 45RN TINEON WITH 1/8″ MALE TAB TERMINALS BUILT-IN FOR QUICK CONNECT TO FEMALE FASTON

Leecraft No.	Rating		Net Ea.	Net per 100	
	Volts	mA	25-99	100-249	250-499
45RN	110–125	....	$2.88	187.28	149.75
45HRN	210–250	....	2.84	182.31	145.79
45RNG1	6	200	3.03	196.02	169.32
45RNG3	14	80	3.08	204.29	178.94
45RNG4	28	40	3.08	204.29	178.94

SUFFIX CODE

Lens	Red	Amber	White
Flush	2311	2313	2315
Hi-Hat	2111	2113	2115
Lens	**Clear**	**Green***	**Blue***
Flush	2317	2312	2314
Hi-Hat	2117	2112	2114

SERIES 32FL FLASHER

The Series 32 Snaplite is available with outboard circuitry to provide flashing action of approximately 100 times per minute. This indicator/flasher combination is ideal for 110–125 volt applications where a warning indicator is desirable. Wire leads standard. The outboard flasher circuitry will pass through the ½″ dia. mounting hole of the standard Series 32 indicator light. Flasher unit also available with Series 31 rectangular lights. To order, select desired 110–125 volt indicator light and add letters **FL** immediately following the Series number; example, 32**FL**R-2111, 32**FL**-2111, etc. For pricing, select desired indicator light, determine quantity required and add appropriate adder from table below.

Leecraft No.	Volts	Net Each 25-99	Net per 100 100-249	Net per 100 250-499
XXFL	110–125	$4.74	$381.10	$360.50

SERIES 51 SLIDELITE™ SLIDE/SWITCH PILOT LIGHTS

Available in either high-brightness neon or miniature incandescent lamp. Snap-in mounting in panel hole 1.281″ x .395″. Available with either wire leads or male quick-connect terminals. SPST switch and self-wiping contacts rated 6 amps at 125 volts. UL and CSA Approved.

Lee. No.*	Volts	Lamp Cur.	Net Ea. 25-99	Net per 100 100-249	Net per 100 250-499
51†	110–125	⅓ W	$3.73	311.61	242.08
51G1	6.3	.2 A	4.05	363.61	313.05
51G3	12–14	.08 A	4.05	354.95	303.34
51G5	28	.04 A	4.05	341.13	296.92
51H†	210–250	⅓ W	3.73	311.61	242.08

*Add suffix for lens color desired. (Example: 51H-**2431** = 250-volt Slidelite, with red lens.) Part numbers listed have tab terminals. For wire leads omit **T** at end of number, (e.g., 51-**2431T** becomes 51-**2431**). #Minimum quantity of 250.

Red	Green	Amber	Blue	White	Clear
2431T	2432T‡	2433T	2434T‡	2435T	2437T

†Neon; all others incandescent. ‡Colors not recommended for neon.

SERIES 31 AND 31D INDICATORS

Provides maximum message display in compact area. Includes long-life high brightness neon or incandescent lamp. Series 31 and 31H equipped with 18-gauge insulated leads. Series 31T and 31HT equipped with .250″ brass tabs; .187″ tabs also available. White nylon housing with chrome-plated bezel. Mtg. hole 1.281″ x .395″; ½″ d. behind panel. Rated ⅓ watt at 110–125 volts. Series 31D special units incorporate two lamps, 3 terminations, in standard housing; can activate two legends separately or simultaneously, write for complete information. UL, CSA Approved.

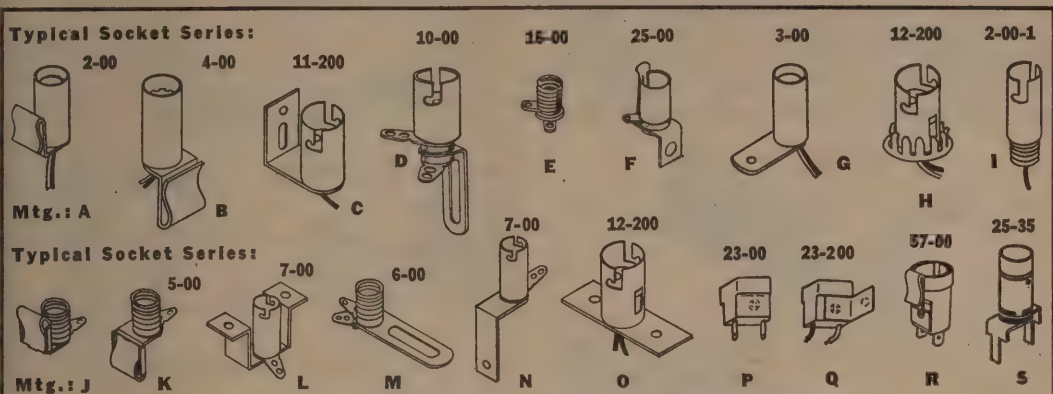
Leecraft No.*	Rating: Volts	Rating: mA	Net Ea. 25-99	Net per 100 100-249	Net per 100 250-499
31†	110–125	‡	$1.98	117.96	$93.79
31G1	6.3	200	2.58	156.01	139.87
31G2	6	40	3.03	196.23	174.06
31G3	14	80	2.70	159.83	144.70
31G5	28	40	2.58	153.39	139.62
31H†	210–250	‡	1.98	117.96	99.79
31D†	110–125	‡	3.38	222.16	181.53

*When ordering, add suffix for lens color desired (e.g., 31H-**2111** for 210-250 V light with red lens). All above lights also available with wire leads; to order omit suffix **T** (31H2111**T**).

Red	Amber	Clear	White	Blue	Green
2111T	2113T	2117T	2115T	2114T	2112T

†Neon; all others incandescent. ‡ ⅓W.

OPEN TYPE BRACKET-MOUNTED LAMP SOCKETS



Sockets illustrated are typical for Series indicated (top number). Mountings (bottom letter) are referred to in tables below. Terminals or leads as stated below.

Includes heavy cadmium plated steel mounting brackets, .025″–.032″; less lens and lamp. Wide variety of bracket styles, available with wire leads or solder terminals. Many other types are available; write for information.

SERIES 2-00 MINIATURE BAYONET

Built-in 22 gauge wire leads, 6″ long, for low voltage incandescent lamps such as T-3¼, G-3½ or G-4½. Includes insulating sleeve, except models with suffix **-1**, which have bracket grounded to shell.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
2-01	A	$2.18	$1.61	$100.69
2-02	B	2.18	1.61	100.69
2-05	C	2.18	1.50	98.73
2-06	D	2.18	1.50	98.73
2-07	E	2.01	1.37	95.91
2-08	F	2.18	1.50	98.73
2-12	G	2.18	1.50	98.73
2-08-1	F	2.01	1.37	90.82
2-40-1	H	2.18	1.50	97.72
2-30N-1	I	2.45	2.17	133.86

SERIES 3-00 MINIATURE BAYONET

Housed in molded phenolic for NE-51 neon, low voltage incandescent lamps. Built-in 6″ wire leads. Rated 75 watts at 125 volts. UL and CSA Approved.

3-01	A	$2.61	$1.90	$129.78
3-05	C	2.61	1.90	129.78
3-06	D	2.61	1.90	129.78
3-08	F	2.61	1.90	129.78
3-12	G	2.61	1.90	129.78

SERIES 7-00 MINIATURE BAYONET

Tinned solder terminals, for low voltage incandescent lamps such as T-3¼, G-3½ or G-4½. Insulating sleeve available.

7-01	A	$1.83	$1.45	$ 88.65
7-02	B	1.83	1.45	88.65
7-06	D	1.83	1.45	84.56
7-07	E	1.74	1.29	74.24
7-08	F	1.83	1.45	84.56
7-11	L	1.83	1.45	88.65
7-12	G	1.83	1.45	84.56
7-20	N	1.83	1.45	84.56
7-35	S	1.96	1.66	118.15

SERIES 5-00 MINIATURE SCREW

Tinned solder terminals, 60°–90° apart, for low voltage incandescent lamps.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
5-03	J	$2.27	$1.81	$107.12
5-04	K	2.27	1.81	107.12
5-05	C	2.27	1.81	99.92
5-06	D	2.27	1.81	99.92
5-07	E	1.77	1.52	90.57
5-08	F	2.27	1.81	99.92

SERIES 16-00 MIDGET SCREW

Solder terminals, for P-2½, T-1¾ lamp.

16-07	E	$2.38	$1.67	$111.30
16-08	F	2.38	1.67	111.30

SERIES 4-00 CANDELABRA SCREW

Heavy molded phenolic housing extends well above socket shell; for incandescent or neon lamps, such as NE-45, S6 or 10C7. Rated 75 watts at 125 volts; 18 gauge wire leads. UL and CSA Approved.

4-01	A	$2.76	$1.88	$141.62
4-02	B	2.76	1.88	141.62
4-05	C	2.76	1.88	140.11
4-06	D	2.76	1.88	140.11
4-08	F	2.76	1.88	140.11
4-12	G	2.76	1.88	140.11

SERIES 6-00 CANDELABRA SCREW

Tinned solder terminals, for incandescent lamps such as G6 and S6.

6-05	C	$2.54	$2.03	$121.42
6-06	D	2.54	2.03	121.42
6-07	E	1.98	1.57	95.65
6-08	F	2.54	2.03	121.42
6-11	L	2.79	2.27	131.19
6-13	M	2.54	2.03	121.42

SERIES 23-00 WEDGE BASE

Rapid insertion and secure positioning of wedge lamps. Molded housing. Types 23-07 and 23-24 have slotted hole, double contact terminals; others have wire leads.

23-07	P	$1.41	$1.11	$71.19
23-24	Q	1.70	1.21	81.07
23-207	P	1.51	1.27	84.85
23-224	Q	2.02	1.33	91.65

#Minimum quantity of 250.

SERIES 10-00, 11-200 SINGLE CONTACT CANDELABRA BAYONET

Similar to double contact candelabra types. Series 10-00 has solder terminals; 11-200 has wire leads.

Leecraft No.	Mtg.	Net Each 1-24	Net Each 25-99	Net/ 100
10-06	D	$2.02	$1.62	$ 63.53
10-08	F	2.02	1.62	103.17
11-271	C	2.29	1.75	119.76
11-272	D	2.29	1.75	119.76

SERIES 12-200 DOUBLE CONTACT CANDELABRA BAYONET

Wire leads, for incandescent and neon lamps such as NE-48, G6, S6 or 10C7. Brackets of .035″–.042″ steel (12-240 is clip mounted). Contacts mounted in phenolic disc, separately sprung by small coils. UL and CSA Approved.

12-207	E	$2.33	$1.80	$151.74
12-225	O	2.33	1.80	154.95
12-240	H	2.47	1.91	161.59
12-271	C	2.33	1.80	154.95
12-272	D	2.33	1.80	154.95

SERIES 57-00 DOUBLE CONTACT CANDELABRA BAYONET

Molded phenolic housing, with male tab terminals that fit into terminal boards with female quick-connect terminals. Brackets of .035″–.042″ steel. For incandescent and neon lamps such as NE-48, S6. Rated 75 watts. UL and CSA Approved.

57-24X	Q	$2.87	$1.61	$110.89
57-45	R	2.21	1.61	110.89

#Minimum quantity of 250.

SERIES 25-00 MIDGET GROOVED

Subminiature sockets for T-1¾ midget grooved base lamps, including lens-end lamps. Tinned solder lugs (available with wire leads). Size, ⅜″ h.; spaced on centers as close as ¼″.

25-06	D	$2.42	$1.89	$141.57
25-08	F	2.42	1.89	141.57
25-12	G	2.42	1.89	141.57
25-35	S	2.01	1.73	143.41

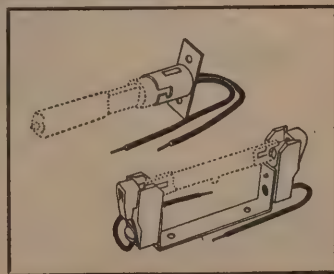
LAMPHOLDERS FOR SINGLE-ENDED AND DOUBLE-ENDED QUARTZ IODINE LAMPS

Series 22-25 Double Contact, Bayonet Base—Single-ended socket permits lamp to be positioned accurately, securely while minimizing possibility of shaking loose from vibration. Swift, simple installation. Eliminates extra bulb handling required with screw-in type sockets. Optimum heat sink for cool operation. Commonly used for stage, film and TV lighting; optical devices and instruments; and, general lighting. With 6″ Teflon* insulated leads. UL and CSA rated at 200° C. Net Ea., Lots 1–24 . **$3.12**; 25–99 . **$ 2.38**
Net per 100: Lots of 100–249 . . . . . **$184.10**; 250–499 . . . . . **$170.29**

Series 26-00 Recessed Single Contact—For double ended recessed single contact (RC)S base lamps. Used primarily for sign lighting, photocopy equipment, general floodlighting. Heavy molded ceramic housing, silver-plated copper contacts; insulated bracket mounting. Rated 600 V at 2000 W. **No. 26-07:** With ¼″ male tab terminal that fits std. female quick connect terminals. **No. 26-207:** With built-in wire lead 4″ lg., stripped ½″ on ends, UL and CSA Approved to 200° C.

Leecraft No. 26-07—Net Each, Lots of 1–24 . . . . . **$4.62**; 25–99 . . . . . **$3.65**
Net per 100, Lots of 100–249 . . . . . **$303.84**; 250–499 . . . . . **$266.84**
Leecraft No. 26-207—Net Each, Lots of 1–24 . . . . . **$5.16**; 25–99 . . . . . **$4.13**
Net per 100, Lots of 100–249 . . . . . **$341.41**; 250–499 . . . . . **$299.84**

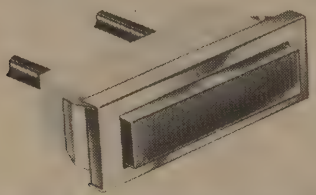
*Reg. DuPont trademark.



SNAP-MOUNT NEON PLASTIC LITES

White nylon housing snaps into panel cutout (or hole) for positive retention; no additional hardware needed. All units are 120 volt neon with built-in 22K ohm resistor and 6" wire leads; some versions also available with quick-connect (Q.C.) terminals. All units are CSA certified; units with wire leads are UL listed; units with Q.C. terminals are UL recognized.

961 SERIES—RECTANGULAR CLEAR FLUTED LENS



Units mount in 1.281" × .395" panel cutout. Chrome bezel.

Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
961-670A-90WRN*	Amber	$1.23	$0.96	$0.83	$0.78
961-670A-90WAN*	Red	1.23	.96	.83	.78
961-670A-90WCN*	Clear	1.23	.96	.83	.78
961-670A-90WWN*	White	1.23	.96	.83	.78

*For .187" Q.C. terminals, change 670A to 770A; for .250" Q.C. terminals, change 670A to 870A.

5/16" DIA. SNAP-MOUNT PLASTIC LITES

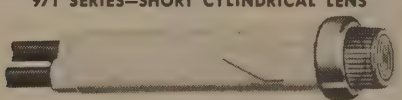
Units mount in .312-.318" dia. hole .Type 970 has no bezel; Type 971 has chrome bezel.

970 SERIES—FLAT CYLINDRICAL LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
970-670A-92WRN	Red	$1.10	$0.76	$0.68	$0.50
970-670A-92WAN	Amber	1.10	.76	.68	.50
970-670A-92WCN	Clear	1.10	.76	.68	.50
970-670A-92WWN	White	1.10	.76	.68	.50

971 SERIES—SHORT CYLINDRICAL LENS

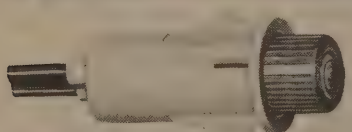


Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
971-670A-03WRN	Red	$1.23	$0.90	$0.80	$0.65
971-670A-03WAN	Amber	1.23	.90	.80	.65

1/2" DIA. SNAP-MOUNT PLASTIC LITES

Units mount in .500-.510" dia. hole. Type 980 has no bezel; Type 981 has chrome bezel.

980 SERIES—SHORT CLEAR CYLINDRICAL LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
980-670A-96WRN*	Red	$1.14	$0.78	$0.70	$0.65
980-670A-96WAN*	Amber	1.14	.78	.70	.65
980-670A-96WCN*	Clear	1.14	.78	.70	.65
980-670A-96WWN*	White	1.14	.78	.70	.65

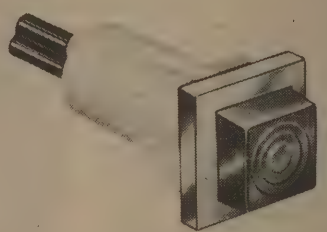
*For .187" Q.C. terminals, change 670A to 770A.

980 SERIES—FLAT CLEAR CYLINDRICAL LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
980-670A-95WRN*	Red	$1.14	$0.78	$0.70	$0.65
980-670A-95WAN	Amber	1.14	.78	.70	.65
980-670A-95WCN	Clear	1.14	.78	.70	.65
980-670A-95WWN	White	1.14	.78	.70	.65

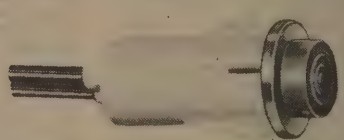
981 SERIES SHORT SQUARE CLEAR LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
981-670A-99WRN*	Red	$1.25	$0.88	$0.77	$0.71
981-670A-99WAN*	Amber	1.25	.88	.77	.71
981-680A-99WWN*	White	1.25	.88	.77	.71

*For .187" Q.C. terminals, change 670A to 770A.

SHORT CLEAR CYLINDRICAL LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
981-670A-96WAN*	Amber	$1.25	$0.88	$0.77	$0.71
981-670A-96WRN*	Red	1.25	.88	.77	.71

*For .187" Q.C. terminals, change 670A to 770A.

LONG STOVEPIPE CLEAR LENS



Littelfuse Part Number	Lens Color	Net Each, Lots of 1-99	100-249	250-499	500-999
981-670A-98WAN	Amber	$1.25	$0.88	$0.77	$0.71
981-670A-98WRN	Red	1.25	.88	.77	.71

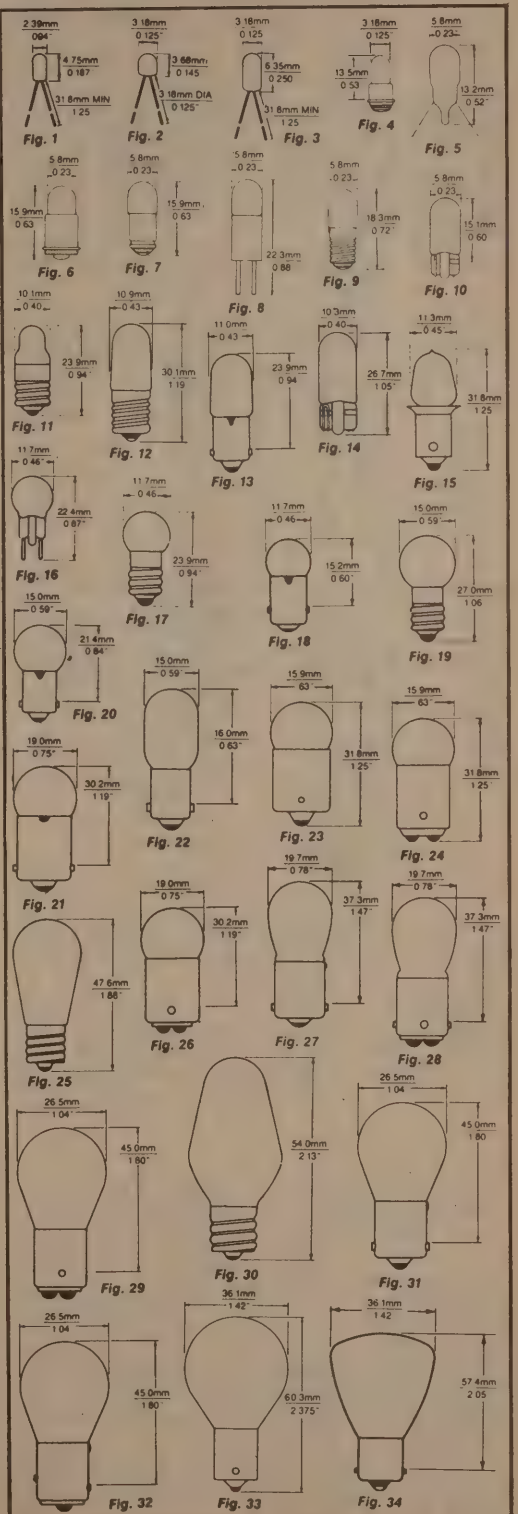
INDUSTRY STANDARD LAMPS

Available in various bulb sizes and voltages. For detailed specifications, write for catalog #302.

Lamp No.	Bulb	Volts	Amps	M.S. C.P.	Fig.	Net Each, Lots of 1-9	10-49	100-499
PR2	B-3½	2.38	.50	.80	15	$0.57	$0.45	$0.40
PR3	B-3½	3.57	.50	1.50	15	.59	.47	.41
PR4	B-3½	2.33	.27	.40	15	.59	.47	.41
PR6	B-3½	2.47	.30	.45	15	.59	.47	.41
PR7	B-3½	3.7	.30	.90	15	.68	.55	.48
PR12	B-3½	5.95	.50	3.10	15	.59	.47	.41
PR13	B-3½	4.75	.50	2.20	15	.59	.47	.41
PR18	B-3½	7.2	.55	5.5	15	.74	.59	.52
656	S-6	120	6W	.....	25	.77	.68	.63
7C7	C-7	115–125	7W	.....	30	.62	.55	.51
12	G-3½	6.3	.15	.35	16	.83	.66	.58
13	G-3½	3.7	.30	.98	17	.47	.37	.33
14	G-3½	2.47	.30	.50	17	.47	.37	.33
19	G-3½	14.4	.10	.90	16	1.18	.95	.83
27	G-4½	4.9	.30	1.4	19	.89	.71	.62
31	G-4½	6.1	.30	2.0	19	1.20	.96	.84
41	T-3¼	2.5	.50	.50	12	.68	.55	.48
43	T-3¼	2.5	.50	.50	13	.76	.61	.53
44	T-3¼	6.3	.25	.90	13	.40	.32	.28
45	T-3¼	3.2	.35	.50	13	1.15	.92	.80
46	T-3¼	6.3	.25	.90	12	.42	.34	.30
47	T-3¼	6.3	.15	.52	13	.40	.32	.28
48	T-3¼	2.0	.06	.04	12	.87	.69	.60
49	T-3¼	2.0	.06	.04	13	.86	.69	.60
51	G-3½	7.5	.22	1.0	18	.41	.33	.29
53	G-3½	14.4	.12	1.0	18	.46	.37	.32
53X	G-3½	14.4	.12	1.0	18	.59	.47	.41
55	G-4½	7.0	.41	2.0	20	.57	.46	.40
56	G-4½	14.0	.24	2.0	20	.48	.39	.34
57X	G-4½	14.0	.24	2.0	20	.54	.43	.38
63	G-6	7.0	.63	3.0	21	.61	.49	.43
67	G-6	13.5	.59	4.0	21	.52	.42	.36
81	G-6	6.5	1.02	6.0	21	.76	.61	.53
82	G-6	6.5	1.02	6.0	26	.66	.53	.46
87	S-8	6.8	1.91	15.0	31	1.52	1.21	1.06
88	S-8	6.8	1.91	15.0	29	1.03	.82	.72
89	G-6	13.0	.58	6.0	21	.61	.49	.43
93	S-8	12.8	1.04	15.0	31	.87	.70	.61
112	TL-3	1.2	.22	.....	11	1.07	.86	.75
123	G-3½	1.25	.30	.10	17	.48	.39	.34
136	G-4½	1.25	.60	.20	19	1.90	1.52	1.33
158	T-3¼	14.0	.24	2.0	14	.64	.51	.45
161	T-3¼	14.0	.19	1.0	14	.56	.45	.39
168	T-3¼	14.0	.35	3.0	14	.59	.47	.41
194	T-3¼	14.0	.27	2.0	14	.48	.39	.34
222	TL-3	2.25	.25	.....	11	.65	.52	.46
301	G-5	28.0	.17	3.0	23	1.69	1.35	1.18
302	G-5	28.0	.17	3.0	24	1.54	1.23	1.07
303	G-6	28.0	.30	6.0	21	1.50	1.20	1.05
305	S-8	28.0	.51	15.0	31	1.67	1.34	1.17
307	S-8	28.0	.67	21.0	31	1.67	1.34	1.17
308	S-8	28.0	.67	21.0	29	1.99	1.60	1.39
309	S-11	28.0	.9	32.0	33	2.43	1.95	1.70
313	T-3¼	28.0	.17	3.5	13	.73	.59	.51
327	T-1¾	28.0	.04	.34	6	.84	.67	.59
328	T-1¾	6.0	.20	.34*	6	.78	.62	.54
330	T-1¾	14.0	.08	.5	6	1.11	.89	.77
331	T-1¾	1.35	.06	.006	6	1.62	1.29	1.13
334	T-1¾	28.0	.04	.34	7	1.46	1.17	1.02
344	T-1¾	10.0	.014	.004	6	1.82	1.45	1.27
382	T-1¾	14.0	.08	.30	6	1.35	1.08	.94
387	T-1¾	28.0	.04	.30	6	.80	.64	.56
388	T-1¾	28.0	.04	.30	6	1.64	1.31	1.14
680	T-1	5.0	.06	.03	3	1.61	1.29	1.12
682	T-1	5.0	.06	.029	4	2.75	2.20	1.92
683	T-1	5.0	.06	.05	3	1.75	1.40	1.23
685	T-1	5.0	.06	.048	4	3.31	2.65	2.32
713	T-1	5.0	.075	.09	3	1.68	1.35	1.18
714	T-1	5.0	.075	.08	4	3.31	2.65	2.32
715	T-1	5.0	.115	.15	3	1.93	1.54	1.35
718	T-1	5.0	.115	.132	4	2.61	2.09	1.82
1003	B-6	12.8	.94	15.0	27	.85	.68	.60
1004	B-6	12.8	.94	15.0	28	.85	.68	.60
1034	S-8	12.8	1.80	32.0	32	.83	.67	.58
		14.0	.59	3.0				
1076	S-8	12.8	1.80	32.0	29	1.32	1.06	.93
1133	RP-11	6.2	3.91	32.0	34	1.90	1.52	1.33
1156	S-8	12.8	2.10	32.0	31	.93	.74	.65
1157	S-8	12.8	2.10	32.0	32	.49	.39	.34
		14.0	.59	3.0				
1176	S-8	12.8	1.34	21.0	29	1.27	1.02	.89
		14.0	.59	6.0				
1183	RP-11	5.5	6.25	50.0	34	3.52	2.82	2.46
1195	RP-11	12.5	3.0	50.0	34	4.19	3.35	2.93
1445	G-3½	14.4	.135	.7	18	.46	.37	.32
1447	G-3½	18.0	.15	1.5	17	.64	.52	.45
1495	T-4½	28.0	.30	6.0	22	1.45	1.16	1.01
1764	T-1¾	28.0	.04	.34	5	.78	.62	.54
1784	T-1¾	6.0	.20	.60	5	1.20	.96	.84
1813	T-3¼	14.4	.10	.86	13	.69	.55	.48
1815	T-3¼	14.0	.20	1.4	13	.69	.55	.48
1816	T-3¼	13.0	.33	3.0	13	.66	.53	.46
1819	T-3¼	28.0	.04	.34	13	.82	.66	.57
1820	T-3¼	28.0	.10	1.6	13	.82	.66	.57
1829	T-3¼	28.0	.07	1.0	13	.73	.59	.51
1847	T-3¼	6.3	.15	.38	13	.47	.37	.33

*At 5 volts.

INDUSTRY STANDARD LAMPS
CONTINUED ON FOLLOWING PAGE



INDUSTRY STANDARD LAMPS (CONT'D)

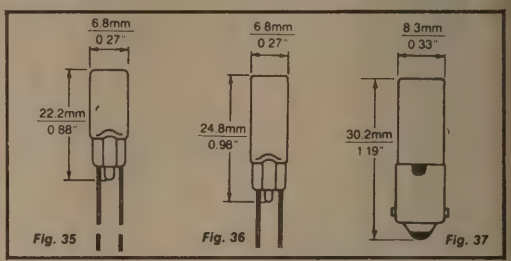
See previous page for illustrations.

Lamp No.	Bulb	Volts	Amps	M.S. C.P.	Fig.	Net Each, Lots of 1-9	10-99	100-499
1850	T-3¼	5.0	.09	.25	13	$1.19	$0.95	$0.83
1864	T-3¼	28.0	.17	3.0	13	.82	.66	.57
1869	T-3¼	10.0	.014	.004	5	1.00	.80	.70
1888	T-3¼	7.0	.50	2.0	13	.66	.53	.46
1889	T-3¼	14.0	.27	2.0	13	.58	.47	.41
1891	T-3¼	14.0	.24	2.0	13	.53	.43	.37
1893	T-3¼	14.0	.33	2.0	13	.53	.43	.37
1895	G-4½	14.0	.27	2.0	20	.48	.39	.34
2162	T-1¾	14.0	.10	.5	5	1.00	.80	.70
2182	T-1¾	14.0	.08	.30	5	.97	.78	.68
2187	T-1¾	28.0	.04	.30	5	.95	.76	.66

Lamp No.	Bulb	Volts	Amps	M.S. C.P.	Fig.	Net Each, Lots of 1-9	10-49	100-499
6832	T-1	5.0	.06	.05	2	$2.50	$2.00	$1.75
6833	T-¾	5.0	.06	.05	1	3.01	2.41	2.10
6838	T-1	28.0	.024	.15	3	3.66	2.93	2.55
6839	T-1	28.0	.024	.15	4	5.41	4.33	3.78
7152	T-1	5.0	.115	.15	2	2.90	2.32	2.03
7327	T-1¾	28.0	.04	.34	8	.89	.71	.62
7328	T-1¾	6.0	.20	.6	8	1.02	.86	.72
7344	T-1¾	10.0	.014	.004	8	1.46	1.17	1.02
7382	T-1¾	14.0	.08	.30	8	1.11	.89	.77
7387	T-1¾	28.0	.04	.30	8	.89	.71	.62
7931	T-1¾	1.35	.06	.006	8	1.26	1.01	.88

WIRE LEAD INDICATOR LAMPS (T-2 BULB) (FIG. 35)

Lamp No.	Volts	Amps.	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
4ES	4	.04	.03	$1.09	$0.87	$0.76
5ES	5	.04	.04	1.09	.87	.76
6ES	6	.04	.025	1.09	.87	.76
10AS	10	.01	.001	1.37	1.09	.96
10CS	10	.017	.01	1.18	.95	.83
10ES	10	.04	.07	.96	.76	.68
12ES	12	.04	.09	1.07	.86	.75
16CS	16	.017	.016	1.10	.88	.77
16ES	16	.04	.17	1.07	.85	.75
18ES	18	.04	.14	1.07	.85	.75
24CS	24	.017	.02	1.14	.92	.80
24ES	24	.04	.12	1.07	.85	.75
28ES	28	.04	.25	.96	.76	.68
48ES	28	.04	.44	1.30	1.04	.91



WIRE LEAD PILOT LAMPS (T-2 BULB) (FIG. 36)

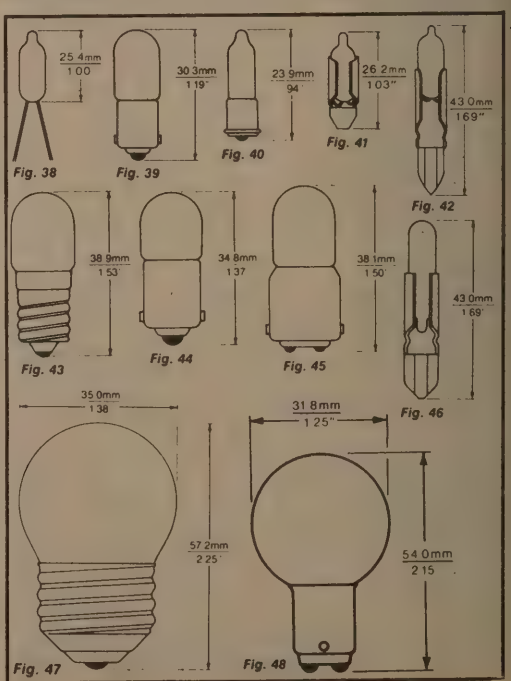
Lamp No.	Volts	Amps	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
6PS	6	.14	.12	$1.09	$0.87	$0.76
12PS	12	.17	.35	1.07	.85	.75
24PS	24	.073	.5	1.07	.85	.75
28PS	28	.04	.29	1.07	.85	.75
48PS	48	.053	.7	1.07	.85	.75
60PS	60	.05	.73	1.34	1.07	.94
120PS	120	.025	.36	1.19	.95	.83
120PS/6	120	.052	1.43	1.18	.95	.83

MINIATURE BAYONET PILOT LAMPS (T2½ BULB) (FIG. 37)

Lamp No.	Volts	Amps	M.S. C.P.	Net Each, Lots of 1-9	10-99	100-499
6MB	6	.140	.12	$1.64	$1.31	$1.15
12MB	12	.170	.35	1.64	1.31	1.15
24MB	24	.073	.50	1.56	1.25	1.09
28MB	28	.040	.29	1.64	1.31	1.15
48MB	48	.053	.70	1.72	1.37	1.19
60MB	60	.050	.73	1.75	1.40	1.23
90MB	90	.033	.37	1.64	1.31	1.15
120MB	120	.025	.36	1.68	1.35	1.18
120MB/6	120	.052	1.43	1.68	1.34	1.17

NEON GLOW INDICATOR LAMPS

Lamp No.	Bulb	Circuit Volts	Ext. Res. (K-ohms)	Fig.	Net Each, Lots of 1-9	10-99	100-499
NE-2 (A1A)	T-2	105-125	150	38	$0.49	$0.39	$0.34
NE-2A (A2A)	T-2	105-125	220	38	.49	.39	.34
NE-2V (A2B)	T-2	105-125	100	38	.49	.39	.34
NE-2E (A9A)	T-2	105-125	100	38	.49	.39	.34
NE-51 (B1A)	T-3¼	105-125	220	39	1.09	.87	.76
NE-51H (B2A)	T-3¼	105-125	27	39	1.09	.87	.76
NE-2H (C2A)	T-2	105-125	30	38	.49	.39	.34
NE-2D (C7A)	T-2	105-125	100	40	2.84	2.27	1.98
NE-2J (C9A)	T-2	105-125	30	40	2.61	2.09	1.83
NE-84 (K1A5)	T-2	105-125	30	41	2.02	1.61	1.41



NEON GLOW CIRCUIT COMPONENT LAMPS

Lamp No.	Bulb	Start. Volts (DC)	Nom. Cur. (mA)	Fig.	Net Each, Lots of 1-9	10-99	100-499
NE-96 (4AB)	T-2	120-150	0.5	38	$4.14	$3.31	$2.90
NE-97 (4AC)	T-2	110-140	0.5	38	1.33	1.06	.93
NE-23 (5AB)	T-2	60-90	0.3	38	1.14	.91	.80
NE-68 (5AC)	T-2	60-90	0.3	38	1.48	1.18	1.03
NE-81 (5AG)	T-2	64-80	0.3	38	1.93	1.54	1.35
NE-76 (5AG-A)	T-2	68-76	0.4	38	3.01	2.41	2.10
NE-83 (5AH)	T-2	60-100	5.0	38	1.36	1.09	.95
NE-86 (5AJ)	T-2	55-90	1.5	38	2.92	2.34	2.04
NE-4 (8AB)	T-2	60-90	0.3	42	4.55	3.64	3.18

INDICATOR CARTRIDGE LAMPS (T-2 BULB) (FIG. 50)

Lamp No.	Volts	Amps.	Average End F.C.	Net Each, Lots of 1-9	10-99	100-499
901	4	.04	145	$2.13	$1.71	$1.49
905	5	.04	225	2.13	1.71	1.49
909	6	.04	160	2.13	1.71	1.49
913	10	.01	—	2.13	1.71	1.49
914	10	.017	10	2.13	1.71	1.49
915	10	.04	540	2.13	1.71	1.49
918	12	.04	550	2.13	1.71	1.49
925	16	.017	75	2.13	1.71	1.49
926	16	.04	750	2.13	1.71	1.49
930	18	.04	800	2.13	1.71	1.49
933	24	.017	200	2.13	1.71	1.49
934	24	.04	650	2.13	1.71	1.49
938	28	.04	1500	2.13	1.71	1.49
941	48	.04	3000	2.13	1.71	1.49

SOCKETS FOR INDICATOR CARTRIDGE LAMPS (FIG. 51)

Part No.	Overall Length	Mtg. Hole Dia.	Terminals	Net Each, Lots of 1-9	10-99	100-499
SM1	1 1/64"	.375"	Turret	$3.03	$2.42	$2.12
SM1A	1 1/64"	.375"	Solder	3.03	2.42	2.12

PILOT CARTRIDGE LAMPS (T-2 BULB) (FIG. 52)

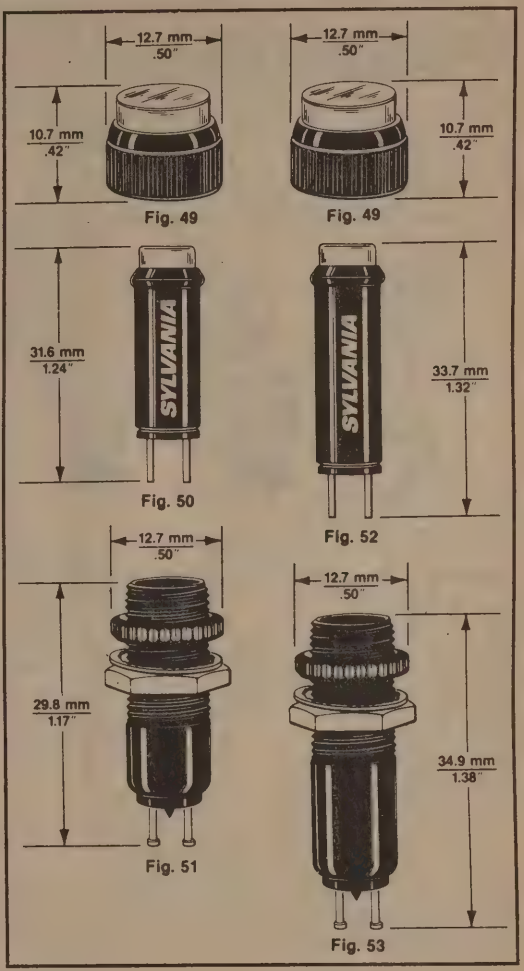
Lamp No.	Volts	Amps	Avg. End F.C.	Net Each, Lots of 1-9	10-99	100-499
6PC	6	.8	550	$2.02	$1.62	$1.41
12PC	12	2	2400	2.02	1.62	1.41
24PC	24	1.7	3000	2.02	1.62	1.41
28PC	28	1.1	1500	2.02	1.62	1.41
48PC	48	2.5	1500	2.02	1.62	1.41
60PC	60	3	1800	2.02	1.62	1.41
120PC	120	3	1000	2.06	1.65	1.44

SOCKETS FOR PILOT CARTRIDGE LAMPS (FIG. 53)

Part No.	Overall Length	Mtg. Hole Dia.	Terminals	Net Each, Lots of 1-9	10-99	100-499
SM2	1 3/8"	.375"	Turret	$3.03	$2.43	$2.12
SM2A	1 1/8"	.375"	Solder	3.03	2.43	2.12

LENSES FOR ABOVE SOCKETS (FIG. 49)

Lens Color	Lens No. Transparent	Lens No. Translucent	Net Each, Lots of 1-9	10-99	100-499
Amber	30140	.....	$0.99	$0.79	$0.69
Clear	30141	.....	.99	.79	.69
Red	30142	30147	.99	.79	.69
Blue	30143	30148	.99	.79	.69
Green	30144	30149	.99	.79	.69
Yellow	.....	30145	.99	.79	.69
White	.....	30146	.99	.79	.69

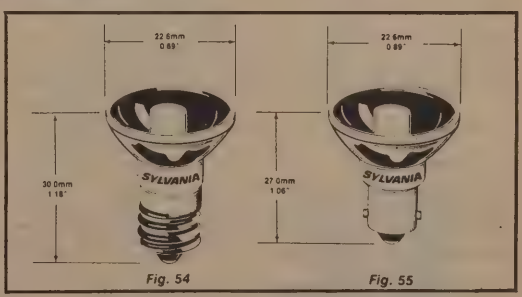


ANNUNCIATOR LAMPS AND COLOR CAPS

Long life annunciator lamps are designed for use in elevator panels, pushbutton stations, indirect decorative lighting and general signalling applications where a relatively high candlepower miniature light source is necessary. A high degree of light control is made possible by a self-contained aluminized reflector. Unique lighting and signalling effects are attainable using pyrex color caps shown in the chart. Ordering Data: For clear lamps, specify lamp number. For colored lamps, specify color as follows: 6RB/Red, etc. Caps are cemented to lamps when ordered in this manner. Caps may also be ordered separately.

ANNUNCIATOR LAMPS (FIGS. 54 AND 55)

Lamp No.	Base	Volts	Amps	Watts	Net Each, Lots of 1-9	10-99	100-499
6RC	Cand. Screw	6	.14	.8	$2.52	$2.01	$1.76
12RC	Cand. Screw	12	.17	2	2.52	2.01	1.76
24RC	Cand. Screw	24	.073	1.7	2.52	2.01	1.76
28RC	Cand. Screw	28	.04	1.1	2.52	2.01	1.76
60RC	Cand. Screw	60	.050	3	2.52	2.01	1.76
120RC	Cand. Screw	120	.025	3	2.18	1.75	1.52
6RB	Min. Bay	6	.140	.8	2.52	2.01	1.76
12RB	Min. Bay	12	.17	2	2.52	2.01	1.76
24RB	Min. Bay	24	.073	1.7	2.52	2.01	1.76
28RB	Min. Bay	28	.04	1.1	2.52	2.01	1.76
60RB	Min. Bay	60	.05	3	2.52	2.01	1.76
120RB	Min. Bay	120	.025	3	2.18	1.75	1.52

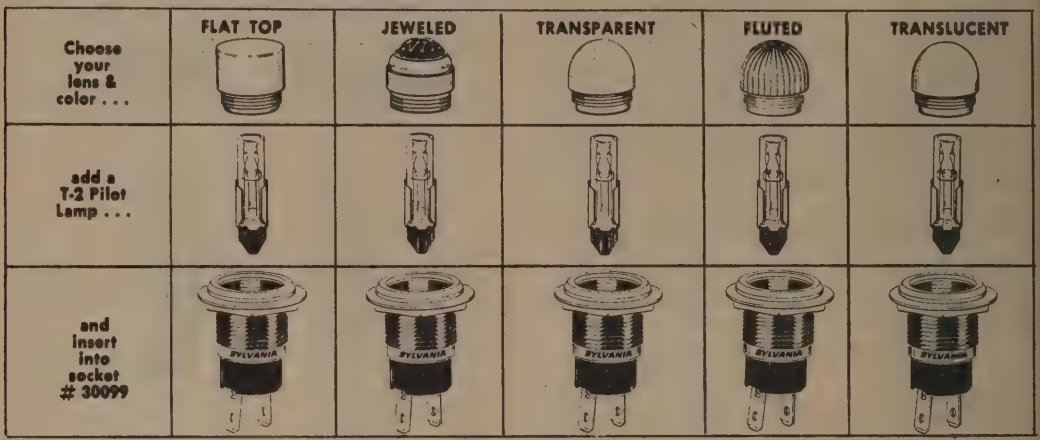


COLOR CAPS FOR ANNUNCIATOR LAMPS

Cap Color	Cap No.	Net Each, Lots of 1-9	10-99	100-499
Red	38071	$1.02	$0.82	$0.71
Yellow	38072	.56	.45	.39
White	38073	.56	.45	.39
Green	38074	.56	.45	.39
Blue	38075	.56	.45	.39

UNIVERSAL PILOT LAMP HOUSING

A variety of lens styles, each available in a choice of colors, plus a standard socket (P/N 30099) provide a wide choice of configurations for virtually every application when used with T-2 slide base Pilot Lamps rated at 5, 6, 12, 24, 28, 48, 60 or 120 volts. **Dimensions: Lenses**—Height, .38"; diameter, .63". **Socket**—Front of panel to end of terminals, .91"; mounting hole, .75" dia.

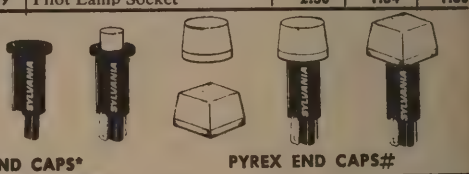


SOCKET AND LENSES

Part No.	Lens Type	Net Each, Lots of 1-9	10-99	100-499
30200	Flat Top Translucent—Red	$0.99	$0.79	$0.69
30212	Flat Top Translucent—Green	.99	.79	.69
30213	Flat Top Translucent—Blue	.99	.79	.69
30214	Flat Top Translucent—Yellow	.99	.79	.69
30100	Jeweled—Red	.99	.79	.69
30102	Jeweled—Green	.99	.79	.69
30103	Jeweled—Blue	.99	.79	.69
30106	Jeweled—Amber	.99	.79	.69
30110	Transparent—Red	.56	.45	.39
30112	Transparent—Green	.56	.45	.39
30113	Transparent—Blue	.56	.45	.39
30111	Transparent—Amber	.56	.45	.39
30114	Transparent—Yellow	$0.56	$0.45	$0.39
30116	Transparent—Clear	.56	.45	.39
30120	Fluted—Red	.50	.40	.35
30122	Fluted—Green	.50	.40	.35
30124	Fluted—Blue	.50	.40	.35
30126	Fluted—Amber	.50	.40	.35
30125	Fluted—Clear	.50	.40	.35
30130	Dome Translucent—Red	.53	.42	.37
30132	Dome Translucent—Green	.53	.42	.37
30131	Dome Translucent—Yellow	.53	.42	.37
30133	Dome Translucent—White	.53	.42	.37
30099	Pilot Lamp Socket	2.30	1.84	1.60

PILOT LAMP ASSEMBLIES

Socket P/N 30152 plus round (.70" dia. × .48" high) or square (.70" × .70" × .48" high) lens also uses T-2 slide base Pilot Lamps rated at 5, 6, 12, 24, 28, 48, 60 or 120 volts. Sockets can also be used without lens, with or without colored end cap covering end of bulb which extends .18" beyond .09" socket flange. **Dimensions:** Socket—1.31" M.O.L.; mounting hole—.50" dia.



LENSES

Color	Ordering Number: Round Lens	Square Lens
Red	30160	30170
Clear	30161	30171
Amber	30162	30172
White	30163	30173
Green	30164	30174
Blue	30165	30175

POLYCARBONATE END CAPS*

Color	Ordering Number
Red	38001
Yellow	38002
White	38003
Green	38004
Blue	38005
Pearl White	38006
Orange	38007

PYREX END CAPS#

Color	Ordering Number
Red	38071
Yellow	38072
White	38073
Green	38074
Blue	38075

*Polycarbonate end caps are press fit to the lamp; cannot be used with lamps rated over 1.1 watts.

#Pyrex end caps must be cemented to the lamp with a translucent silicone rubber adhesive.

PRICES FOR SOCKETS, LENSES AND END CAPS

Description	Net Each, Lots of 1-9	10-99	100-499
Pilot Lamp socket P/N 30152	$0.75	$0.596	$0.521
Lenses (round or square)	.40	.316	.276

Description	Net Each, Lots of 1-9	10-99	100-499
Pyrex end cap, red	$0.93	$0.745	$0.651
All others	.51	.412	.359
Polypropylene end caps	.30	.243	.213

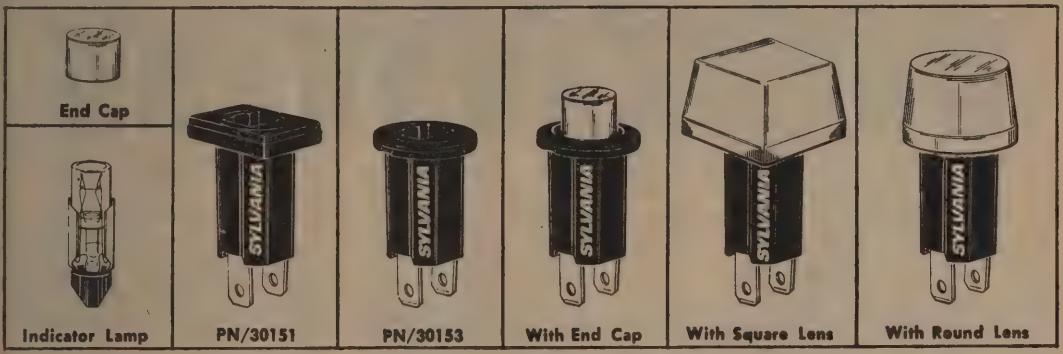
PILOT LAMPS FOR ABOVE HOUSING AND ASSEMBLIES

Lamp No.	Design: Volts	Amps	Watts	Filament	M.S. C.D.	Average End Foot Candles	Rated Average Life (Hours)	Net Each, Lots of 1-9	10-99	100-499
5SLB	5	.12	.6	C-2V	.12	1,600	2,500	$1.37	$1.10	$0.96
6PSB	6	.14	.8	C-2F	.12	500	20,000	1.43	1.14	.99
6SLB	6	.144	.6	C-2V	.12	1,700	2,500	1.37	1.10	.96
12PSB	12	.17	2.0	C-2F	.35	2,000	12,000	1.43	1.14	.99
24PSB	24	.073	1.7	C-2F	.50	3,000	10,000	1.43	1.14	.99
28PSB	28	.04	1.1	C-2F	.29	1,600	5,000	1.43	1.14	.99
48PSB	48	.053	2.5	C-7A	.7	1,800	7,500	1.43	1.14	.99
60PSB	60	.05	3.0	C-7A	.73	2,600	7,500	1.64	1.31	1.14
120PSB	120	.025	3.0	CC-7A	.36	1,200	10,000	1.61	1.29	1.12

SINGLE SOCKET INDICATOR LAMP ASSEMBLIES

Available sockets include P/N 30153 (round flange) and P/N 30151 (rectangular flange). Sockets may be used with or without colored lens cap covering end of bulb which extends .18" beyond .09" flange.

Socket P/N 30153 (round flange) can also be used with round (.70" dia. × .48" high) or square (.70" × .70" × .48" high) lenses. Both sockets 1.14" M.O.L. Mounting hole, .50" dia. Sockets accept T-2 lamps rated 4, 5, 6, 10, 12, 14, 16, 18, 24, 28 or 48 volts.



PRICING

Part Number	Description	Net Each, Lots of 1-9	10-99	100-499
30151	Socket, rectangular flange	$0.82	$0.65	$0.57
30153	Socket, round flange	.82	.65	.57
38001	End cap, (*), red	.33	.26	.23
38002	End cap, (*), yellow	.33	.26	.23
38003	End cap, (*), white	.33	.26	.23
38004	End cap, (*), green	.33	.26	.23
38005	End cap, (*), blue	.33	.26	.23
38006	End cap, (*), pearl white	.33	.26	.23
38007	End cap, (*), orange	.33	.26	.23
38071	End cap, Pyrex, red	1.02	.82	.71
38072	End cap, Pyrex, yellow	.56	.45	.39
38073	End cap, Pyrex, white	.56	.45	.39
38074	End cap, Pyrex, green	.56	.45	.39
38075	End cap, Pyrex, blue	$0.56	$0.45	$0.39
30160	Lens, round, red	.43	.34	.30
30161	Lens, round, clear	.43	.34	.30
30162	Lens, round, amber	.43	.34	.30
30163	Lens, round, white	.43	.34	.30
30164	Lens, round, green	.43	.34	.30
30165	Lens, round, blue	.43	.34	.30
30170	Lens, square, red	.43	.34	.30
30171	Lens, square, clear	.43	.34	.30
30172	Lens, square, amber	.43	.34	.30
30173	Lens, square, white	.43	.34	.30
30174	Lens, square, green	.43	.34	.30
30175	Lens, square, blue	.43	.34	.30

*Polycarbonate end caps are press fit to the lamp; cannot be used with lamps rated over 1.1 watts.

Pyrex end caps must be cemented to the lamp with a translucent silicone rubber adhesive.

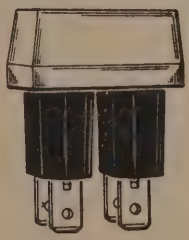
TWIN LIGHT INDICATOR LAMP ASSEMBLIES

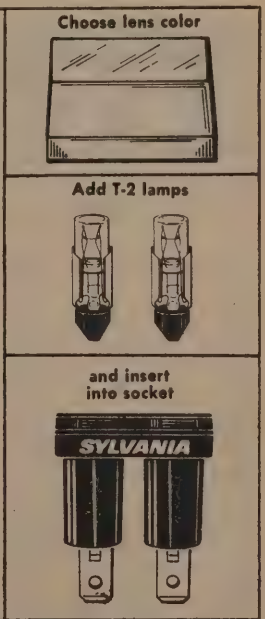
TWIN LIGHT LENSES

Ordering Number	Color	Net Each, Lots of 1-9	10-99	100-499
30180	Red	$0.90	$0.72	$0.63
30182	Amber	.90	.72	.63
30183	White	.90	.72	.63
30184	Green	.90	.72	.63
30185	Blue	.90	.72	.63

TWIN LIGHT SOCKETS

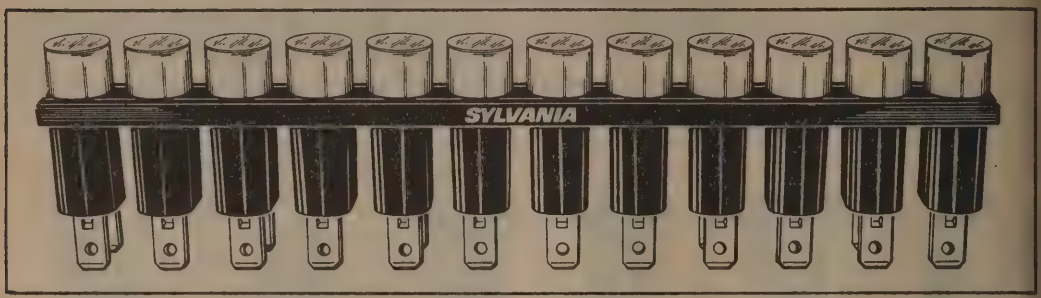
Ordering Number	Description	No. of Contacts	Net Each, Lots of 1-9	10-99	100-499
31351	Both sides common	2	$1.91	$1.59	$1.39
31352	One side common	3	1.91	1.59	1.39
31353	Individual contacts	4	1.91	1.59	1.39

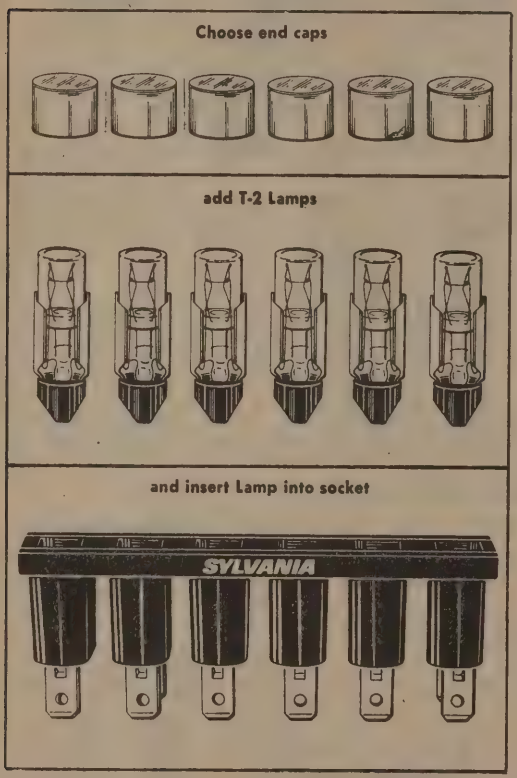

Complete Ass'y.



INDICATOR LAMPS FOR ABOVE ASSEMBLIES WILL BE FOUND ON FOLLOWING PAGE.

STRIP SOCKET ASSEMBLIES





Strip socket assemblies may be used with or without end caps. Polypropylene caps are press fit to the lamp; cannot be used with lamps rated over 1.1 watts. Pyrex caps must be cemented to the lamp with a translucent silicone rubber adhesive. Strip socket assemblies are available with 2 thru 12 sockets on 1/2" or 3/4" centers; common ground or individual contacts. Sockets accept T-2 lamps rated at 4, 5, 6, 10, 12, 14, 16, 18, 24, 28 or 48 volts.

INDICATOR LAMP STRIP SOCKETS

Number of Sockets	Ordering Number			
	1/2" Centers		3/4" Centers	
	Common Ground	Individual Contacts	Common Ground	Individual Contacts
2	31301	31311	31321	31337
3	31302	31312	31322	31338
4	31303	31313	31323	31334
5	31304	31314	31324	31339
6	31305	31315	31325	31333
7	31306	31316	31326	31340
8	31307	31317	31327	31341
9	31308	31318	31328	31342
10	31309	31319	31329	31343
11	31310	31320	31330	31344
12	31250	33250	31275	33275

SOCKET STRIP PRICING

Number of Sockets	Net Each, Lots of		
	1-9	10-99	100-499
2	$1.99	$1.59	$1.39
3	2.97	2.38	2.07
4	3.94	3.16	2.76
5	4.92	3.94	3.44
6	5.89	4.72	4.12
7	6.87	5.50	4.80
8	7.85	6.28	5.48
9	8.82	7.06	6.17
10	9.80	7.84	6.85
11	10.77	8.62	7.53
12	6.14	4.91	4.29

INDICATOR LAMPS FOR SINGLE SOCKET, TWIN LIGHT AND STRIP SOCKET ASSEMBLIES

Lamp Number	Design			Filament	M.S.C.D.	Average End Foot Candles	Rated Average Life (Hrs.)	Net Each, Lots of		
	Volts	Amperes	Watts					1-9	10-99	100-499
4ESB	4.0	.040	.16	C-6	.03	200	10,000	$1.56	$1.25	$1.09
5ESB	5.0	.040	.20	C-6	.04	225	8,000	1.56	1.25	1.09
6ESB	6.0	.040	.24	C-2V	.025	250	10,000	1.37	1.09	.96
53B	6.0	.240	1.44	C-2V	.24	2,000	5,000	1.43	1.14	.99
10ASB	10.0	.010	.10	C-2F	.001	.....	50,000	1.75	1.40	1.23
10CSB	10.0	.017	.17	C-2V	.01	60	20,000	1.56	1.25	1.09
10ESB	10.0	.040	.40	C-2V	.07	450	10,000	1.43	1.14	.99
12ESB	12.0	.040	.48	C-2V	.09	650	10,000	1.45	1.16	1.02
14FSB	14.0	.080	1.12	C-2F	.50	4,000	500	1.49	1.19	1.04
16CSB	16.0	.017	.27	C-2F	.016	80	15,000	1.56	1.25	1.09
16ESB	16.0	.040	.64	C-2F	.17	800	7,500	1.43	1.14	.99
18ESB	18.0	.040	.72	C-2F	.14	850	5,000	1.43	1.14	.99
24CSB	24.0	.017	.42	C-2F	.02	100	15,000	1.49	1.19	1.04
24ESB	24.0	.040	.96	C-2F	.12	850	8,000	1.43	1.14	.99
28ESB	28.0	.040	1.12	C-2F	.25	1,500	6,000	1.43	1.14	.99
48ESB	48.0	.040	1.92	CC-2F	.44	3,000	5,000	1.60	1.28	1.12

Buss® Military Fuses and Holders

BUSS FUSES LISTED UNDER MIL-F-15160D

Suffix **S** on Military designation (e.g., F01A250V1/500A-**S**) indicates silver plating; if not required, omit (e.g., F01A250V1/500A).

Military Type Designation	Nearest BUSS Equiv.	Price Each
F01A250V1/500A-S	AGX1/500	$2.36
F01A250V1/200A-S	AGX1/200	1.04
F01A250V1/100A-S	AGX1/100	.88
F01A250V1/32A-S	AGX1/32	.76
F01A250V1/16A-S	AGX1/16	.48
F01A250V1/8A-S	AGX1/8	.40
F01A250V1/4A-S	AGX1/4	.22
F01A250V3/8A-S	AGX3/8	.22
F01A250V1/2A-S	AGX1/2	.22
F01A125V3/4A-S	AGX3/4	.22
F01A125V1A-S	AGX1	.16
F01A125V1½A-S	AGX1½	.16
F01A125V2A-S	AGX2	.16
F02A250V1/100A-S	AGC1/100	.88
F02A250V1/32A-S	AGC1/32	.78
F02A250V1/16A-S	AGC1/16	.40
F02A250V1/8A-S	AGC1/8	.40
F02A250V1/4A-S	AGC1/4	.23
F02A250V3/8A-S	AGC3/8	.23
F02A250V1/2A-S	AGC1/2	.23
F02A250V3/4A-S	AGC3/4	.23
F02A250V1A-S	AGC1	.16
F02A250V1½A-S	AGC1½	.16
F02A250V2A-S	AGC2	.16
F02A250V3A-S	AGC3	.16
F02A250V4A-S	MTH4	.19
F02A250V5A-S	MTH5	.19
F02A250V6A-S	MTH6	.19
F02A32V10A-S	AGC10	.11
F02A32V15A-S	AGC15	.11
F02A32V20A-S	AGC20	.12
F02B250V1/100A-S	MDL1/100	.64
F02B250V1/32A-S	MDL1/32	.64
F02B250V1/16A-S	MDL1/16	.48
F02B250V1/8A-S	MDL1/8	.48
F02B250V1/4A-S	MDL1/4	.48
F02B250V3/8A-S	MDL3/8	.48
F02B250V1/2A-S	MDL1/2	.48
F02B250V3/4A-S	MDL3/4	.48
F02B250V1A-S	MDL1	.48
F02B250V1½A-S	MDX1½	.50
F02B250V2A-S	MDX2	.50
F02B125V3A-S	MDX3	.40
F02B125V5A-S	MDX5	.40
F02B32V8A-S	MDL8	.40
F02B32V10A-S	MDL10	.40
F02B32V15A-S	MDL15	.40
F02B32V20A-S	MDL20	.40
F03A250V1A-S	ABC1	.33
F03A250V3A-S	ABC3	.33
F03A250V5A-S	ABC5	.29
F03A250V8A-S	ABC8	.29
F03A250V10A-S	ABC10	.29
F03A250V12A-S	ABC12	.29
F03A250V15A-S	ABC15	.29
F03A125V20A-S	ABC20	.29
F03A125V30A-S	ABC30	.42
F03B250V1/100A-S	MDA1/100	.90
F0.B250V1/32A-S	MDA1/32	.90
F03B250V1/16A-S	MDA1/16	.72
F03B250V1/8A-S	MDA1/8	.72
F03B250V15/100A-S	MDA15/100	.72
F03B250V3/16A-S	MDA3/16	.72
F03B250V1/4A-S	MDA1/4	.72
F03B250V3/8A-S	MDA3/8	$0.72
F03B250V1/2A-S	MDA1/2	.72
F03B250V3/4A-S	MDA3/4	.72
F03B250V1A-S	MDA1	.70
F03B125V3A-S	MDA3	.51
F03B125V5A-S	MDA5	.51
F03B125V8A-S	MDA8	.51
F03B125V10A-S	MDA10	.51
F03B125V15A-S	MDA15	.51
F03B125V20A-S	MDA20	.51
F03B125V30A-S	MDA30	.51
F05A32V10A-S	AGS10	.22
F05A32V15A-S	AGS15	.22
F05A32V20A-S	AGS20	.20
F05A32V25A-S	AGS25	.20
F05A32V30A-S	AGS30	.20
F05B32V10A-S	MDM10	.50
F05B32V15A-S	MDM15	.50
F05B32V20A-S	MDM20	.50
F05B32V25A-S	MDM25	.50
F05B32V30A-S	MDM30	.50
F06A250V1A-S	ABS1	.50
F06A250V2A-S	ABS2	.50
F06A250V3A-S	ABS3	.50
F06A250V5A-S	ABS5	.48
F06A250V10A-S	ABS10	.48
F06A250V15A-S	ABS15	.48
F07A250V1A-S	AGU1	.35
F07A250V2A-S	AGU2	.35
F07A250V3A-S	AGU3	.35
F07A32V5A-S	AGU5	.35
F07A32V10A-S	AGU10	.35
F07A32V15A-S	AGU15	.35
F07A32V20A-S	AGU20	.30
F07A32V 0A-S	AGU30	.30
F07B125V1A-S	MDR1	.76
F07B125V2A-S	MDR2	.76
F07B125V3A-S	MDR3	.62
F07B32V5A-S	MDR5	.62
F07B32V10A-S	MDR10	.62
F07B32V15A-S	MDR15	.62
F07B32V20A-S	MDR20	.62
F07B32V30A-S	MDR30	.68
F09A250V1A-S	BAN1	.38
F09A250V3A-S	BAN3	.38
F09A250V5A-S	BAN5	.38
F09A250V6A-S	BAN6	.38
F09A250V10A-S	BAN10	.38
F09A250V15A-S	BAN15	.38
F09A250V20A-S	BAN20	.38
F09A250V25A-S	BAN25	.38
F09A250V30A-S	BAN30	.38
F09B250V1/10A-S	FNM1/10	.77
F09B250V15/100A-S	FNM15/100	.77
F09B250V2/10A-S	FNM2/10	.77
F09B250V3/10A-S	FNM3/10	.77
F09B250V4/10A-S	FNM4/10	.77
F09B250V1/2A-S	FNM1/2	.77
F09B250V6/10A-S	FNM6/10	.77
F09B250V8/10A-S	FNM8/10	.77
F09B250V1A-S	FNM1	.74
F09B250V1¼A-S	FNM1¼	.74
F09B250V1-6/10A-S	FNM1-6/10	.74
F09B250V2A-S	FNM2	.74
F09B250V2½A-S	FNM2½	$0.74
F09B250V3-2/10A-S	FNM3-2/10	.74
F09B250V4A-S	FNM4	.74
F09B250V5A-S	FNM5	.74
F09B250V6¼A-S	FNM6¼	.74
F09B250V8A-S	FNM8	.74
F09B250V10A-S	FNM10	.74
F09B125V15A-S	FNM15	.74
F09B32V20A-S	FNM20	.74
F09B32V25A-S	FNM25	.74
F09B32V30A-S	FNM30	.74
F15A250V1A-S	NFA1	...
F15A250V3A-S	NFA3	...
F15A250V6A-S	NFA6	...
F15A250V10A-S	NFA10	...
F15A250V15A-S	NFA15	...
F15A250V20A-S	NFA20	...
F15A250V25A-S	NFA25	...
F15A250V30A-S	NFA30	...
F15B250V1A-S	FRN1	1.07
F15B250V1-6/10A-S	FRN1-6/10	1.07
F15B250V2A-S	FRN2	1.07
F15B250V2½A-S	FRN2½	1.07
F15B250V3-2/10A-S	FRN3-2/10	1.00
F15B250V4A-S	FRN4	1.00
F15B250V5A-S	FRN5	1.00
F15B250V6¼A-S	FRN6¼	1.00
F15B250V8A-S	FRN8	1.00
F15B250V10A-S	FRN10	1.00
F15B250V12A-S	FRN12	1.00
F15B250V15A-S	FRN15	.92
F15B250V20A-S	FRN20	.92
F15B250V25A-S	FRN25	.92
F15B250V30A-S	FRN30	.92
F60C500V1/8A-S	KLM1/8	2.04
F60C500V1/4A-S	KLM1/4	2.04
F60C500V1/2A-S	KLM1/2	2.04
F60C500V3/4A-S	KLM3/4	2.04
F60C500V1A-S	KLM1	2.04
F60C500V3A-S	KLM3	2.04
F60C500V6A-S	KLM6	2.04
F60C500V8A-S	KLM8	2.04
F60C500V10A-S	KLM10	2.04
F60C500V15A-S	KLM15	2.04
F60C500V20A-S	KLM20	2.04
F60C500V25A-S	KLM25	2.04
F60C500V30A-S	KLM30	2.04

*Add **$9.00** Stamping Charge and a minimum **$6.00** per thousand Silver Plating Charge per item.

FUSE CLIPS LISTED MIL-F-21346 DATED 24 APRIL 1958

FC21AN	5682-01	$0.098
FC21BN	5674-01	.16
FC21CN	5960-07	.26

INSTRUMENT TYPE FUSES LISTED UNDER MIL-F-23419A, DATED 19 DEC. 1966

Part No.	Designation	BUSS Equivalent	Each
M23419/1-001	FM01 1/200A	GMU 1/200A	$1.54
M23419/1-002	FM01 1/100A	GMU 1/100A	1.54
M23419/1-003	FM01 1/64A	GMU 1/64A	1.54
M23419/1-004	FM01 1/32A	GMU 1/32A	1.54
M23419/1-005	FM01 1/16A	GMU 1/16A	1.54
M23419/1-006	FM01 1/10A	GMU 1/10A	1.19
M23419/1-007	FM01 1/8A	GMU 1/8A	1.19
M23419/1-008	FM01 2/10A	GMU 2/10A	1.19
M23419/1-009	FM01 1/4A	GMU 1/4A	1.19
M23419/1-010	FM01 3/10A	GMU 3/10A	1.19
M23419/1-011	FM01 4/10A	GMU 4/10A	1.19
M23419/1-012	FM01 1/2A	GMU 1/2A	1.19
M23419/1-013	FM01 6/10A	GMU 6/10A	1.19
M23419/1-014	FM01 3/4A	GMU 3/4A	1.19
M23419/1-015	FM01 1A	GMU 1A	1.19
M23419/1-016	FM01 1½A	GMU 1½A	1.19
M23419/1-017	FM01 2A	GMU 2A	1.19
M23419/1-018	FM01 3A	GMU 3A	1.19
M23419/1-019	FM01 4A	GMU 4A	1.19
M23419/1-020	FM01 5A	GMU 5A	1.19

FM03 listed under **MIL-F-23419A**, 1/100 to 25 amps.

OTHER BUSS MIL FUSES & BLOCKS

Fuses to MIL-F-15160D also available in styles:

F10A	F16A	F20B	F27A	F36B	F39B	F62C
F11A	F16B	F21A	F28A	F37A	F40A	F63C
F14A	F19A	F21B	F29A	F37B	F40B	F64C
F14B	F19B	F22A	F30A	F38A	F50A	F65C
F15B	F20A	F22B	F36A	F39A	F61C	F66C

All fuses with silver links subject to silver surcharge.

BUSS FUSEHOLDERS LISTED UNDER MIL-F-19207B*

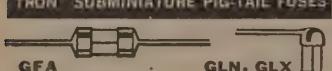
Extractor post, blown fuse indicating and non-indicating types.

BUSS and Military Type Designation	Electrical Rating	Price Each, Lots of		
		1-99	100-499	500-999
FHL10U	30A, 90–250V	$6.55	$5.71	....
FHL11U	30A, 90–250V	5.28	4.39	....
FHL12U	30A, 90–500V	5.98	5.20	....
FHL17GI	20A, 90–250V	3.82	3.18	$2.54
FHL18GI-1	20A, 12–22V	5.95	4.96	3.97
FHL18GI-2	20A, 23–33V	5.95	4.96	3.97
FHL18GI-3	20A, 34–45V	5.95	4.96	3.97
FHL18GI-4	20A, 46–60V	5.95	4.96	3.97
FHL18GI-5	20A, 61–80V	5.95	4.96	3.97
FHL18GI-6	20A, 81–90V	5.95	4.96	3.97
FHL16GI-7	20A, 2.5–4V	5.95	4.96	3.97
FHL16GI-8	20A, 5–7V	5.95	4.96	3.97
FHL16GI-9	20A, 8–12V	5.95	4.96	3.97
FHN19G	15A, 250V	1.84	1.54	1.23
FHL22W	20A, 250V	2.71	2.26	1.80
FHN23W	30A, 250V	3.16	2.64	2.11
FHN26GI	30A, 250V	1.45	1.21	.968
FHL29G-1	30A, 12–22V	8.61	7.47	....
FHL29G-2	30A, 23–33V	8.61	7.47	....
FHL29G-3	30A, 34–45V	8.61	7.47	....
FHL29G-4	30A, 46–60V	8.61	7.47	....
FHL29G-5	30A, 61–80V	8.61	7.47	....
FHL29G-6	30A, 81–90V	8.61	7.47	....
FHL30G-1	30A, 12–22V	8.86	7.39	....
FHL30G-2	30A, 23–33V	8.86	7.39	....
FHL30G-3	30A, 34–45V	8.86	7.39	....
FHL30G-4	30A, 46–60V	8.86	7.39	....
FHL30G-5	30A, 61–80V	8.86	7.39	....
FHL30G-6	30A, 81–90V	8.86	7.39	....
FHN31GI	5A, 250V	1.65	1.38	1.10
FHN42W	5A, 125V	1.72	1.43	1.14

†Lots 100 Up. *Dated 31 Aug. 1966

Buss® and Fusetron® Fuses, Holders

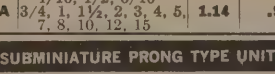
TRON SUBMINIATURE PIG-TAIL FUSES



Glass-tube construction with 1½" leads of #24 tinned copper for 1/100–5 amp ratings, #18 tinned copper for 7–15 amp ratings. Hermetically sealed. Color coded to indicate amp ratings. For circuits with fault current of 50 amps or less (1/100–5 amps for 125 V or less, 7–15 amps for 32 V or less). GLN, GLX body, .140" x .3"; GFA body, .145" x .3". GFA, UL Recognized.

Buss No.	Amperes	Net Each ♦	Net Each ■
GLN	1/100	$3.33	$2.77
GLN	1/32, 1/20, 1/16, 1/10, 3/10, 4/10, 7, 8, 10, 15	2.79	2.34
GLX	2/10, 1/4, 1/2, 6/10, 3/4, 1, 1½, 2, 3, 4, 5	3.99	3.33
GFA	1/200, 1/100, 1/64, 1/32, 1/20, 1/16, 1/10, 1/8, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10	1.24	1.03
GFA	3/4, 1, 1½, 2, 3, 4, 5, 7, 8, 10, 12, 15	1.14	.95

SUBMINIATURE PRONG TYPE UNIT



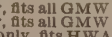
Rated 125 V max; fault current under 300 A. Open at 200% in 10 sec. Use AF knob for waterproof. Body .27" dia., .25" long. GMW and HWA* devices UL Recognized.

Buss No.	Amperes	Net Each ♦	Net Each ■
GMW	1/200, 1/100, 1/64, 1/32, 1/16	$2.09	$1.74
GMW	1/10, 1/8, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10, 3/4, 1, 1½, 2, 3, 4, 5	1.57	1.32
HWA*	Holder, fits all GMW	2.01	1.69
HWA†	Holder, fits all GMW	1.79	1.51
AF	Knob only, fits HWA	.25	.22

*With AF knob. †Without AF knob.

13/64 x 45/64 inch FUSES

(5 mm X 20 mm)



Protection of miniaturized circuits commonly used in foreign equipment. Carry 100% open at 200% in 10 sec.

Buss No.	Amperes	Net Each ♦	Net Each ■
GMA	1/8, 1/10, 2/10	$0.85	$0.73
GMA	1/4, 3/10, 4/10, 1/2, 6/10, 7/10, ¾, 8/10	.66	.56
GMA	1, 1-2/10, 1¼, 1-6/10, 2, 2½, 3, 3½, 4, 5, 6, 7, 8, 10, 15	.58	.47

1/4 x 5/8 inch FUSES

FAST ACTING FUSES

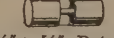


Glass tube, ¼" x ⅝". Rated 32 V, carry 110%, open at 135% in 1 hour.

AGA	1, 1½, 2, 2½, 3	$0.23	$0.20
AGA	5, 6, 7, 7½, 10, 15, 20, 25, 30	.17	.14

1/4 x 7/8 inch FUSES

FAST ACTING FUSES



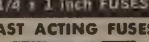
Glass tube, rated 32 V; carry 110%, open at 135% in 1 hour.

AGW	1, 1½, 2, 2½, 3, 4	$0.23	$0.20
AGW	5, 6, 7½, 15, 20, 30	.17	.14

♦Less than $150 net. ■$150 net and over.

1/4 x 1 inch FUSES

FAST ACTING FUSES



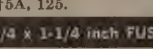
Glass tube, ¼" x 1". Carry 100%, open at 200% in 5 sec. Up to ½ A sizes have bridge elements, others have straight-through element. UL Listed to 5 amps.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
AGX	1/500	250	$3.71	$3.09
AGX	1/200	250	1.62	1.35
AGX	1/100, 1/32	250	1.25	1.06
AGX	1/16	250	.66	.56
AGX	1/10, ⅛, 3/16, 2/10	250	.56	.45
AGX	¼, 3/10, ⅜, 4/10, ½, ¾	250	.32	.25
AGX	1, 1½, 2, 3, 4	125*	.23	.20
AGX	5, 6, 7, 8	32†	.17	.14
AGX	10, 15, 30	32	.15	.14
AGX	35, 50	32	.23	.20

*1A, 250. †5A, 125.

1/4 x 1-1/4 inch FUSES

FAST ACTING FUSES



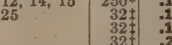
Glass tube, ¼" x 1¼". Carry 110%, open at 135% in 1 hour or less. 1/500 to 2 amp sizes will open at 200% in 5 seconds or less. 1/500 to 1/32 amp have bridge construction; all others straight-through element.

AGC	1/500	250*	$3.71	$3.09
AGC	1/200	250*	1.62	1.34
AGC	1/100	250*	1.25	1.06
AGC	1/32, 1/20	250*	1.11	.95
AGC	1/16, ⅛, 15/100, 175/1000, 3/16, 1/10, 2/10	250*	.56	.45
AGC	¼, 3/10, ⅜, 4/10, 45/100, ½, 6/10, ¾, 8/10	250*	.33	.25
AGC	1, 2, 3, 4	250*	.22	.19
AGC	5, 6, 7, 8, 9	32‡	.17	.14
AGC	10, 12, 14, 15	250*	.15	.13
AGC	20, 25	32‡	.15	.13
AGC	30	32‡	.15	.13
AGC	35	32‡	.22	.19

*UL Listed. ‡UL Recognized.

1/4 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

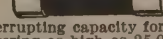


High interrupting capacity for use on circuit delivering as high as 25,000 amps at 125 V, or 10,000 amps at 250 V. ¼" x 1¼". Carry 110%, open at 135% in 1 hour. Up to 15 amp size UL Listed.

ABC	¼, ½, ¾, 1, 1½, 2, 2½, 3, 4	250	$0.45	$0.39
ABC	5, 6, 7, 8, 10, 12, 15	250	.40	.33
ABC	25, 30, 20	125	.71	.59

1/4 x 1-1/4 inch FUSES

VISUAL INDICATING FUSES



For use with HLD fuseholder. Bright red dot on indicating pin extends from end of fuse when fuse is open even after power is off. Rated 125 V or less, carries 110%, opens at 135% in 1 hour or less. Only ¼" x 1¼". UL Listed to 5 amps.

Buss No.	Amperes	Net Each ♦	Net Each ■
GBA	¾	$1.46	$1.21
GBA	1, 1½, 2, 2½, 3, 4, 5	1.11	.94
GBA	6, 8, 10, 15	1.43	1.20

Fiber tube with silver plated indicating pin which extends when fuse is blown. To 5 A may be used to actuate a signal when used in HKA fuseholder or Signal Fuse Block. Dual tube construction over 5 amps. Under 8 amps, 125 V; 8 amps up, 32 V. Size ¼" x 1¼". UL Listed to 5 amps.

GLD	½, ¾, 1, 1½, 2, 3, 4, 5	$1.36	$1.14
GLD	6, 8, 10, 12, 15, 20, 25, 30	1.52	1.25

1/4 x 1-1/4 inch FUSES

FUSETRON PIG-TAIL FUSES



Body ¼" x 1¼", #20 tinned leads, 1¼". 1/100 to 2-8/10 same as MDL type; 3 to 7 amps same as MDX type. UL Listed.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
MDV	1/100, 1/32	250	$1.15	$0.97
MDV	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10, 1	250	.86	.73
MDV	1¼, 1½, 1-6/10, 1-8/10, 2, 2¼	125	.84	.69
MDV	2½, 2-8/10, 3, 3-2/10, 3½, 4, 5, 6, 6¼, 7	125	.69	.56

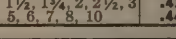
PIG-TAIL FUSES

Glass tube ¼" x 1¼" with 1¼" leads of #20 tinned wire. Carry 110%, open 135% in 1 hour. 250 V. UL Listed.

Buss No.	Amperes	Net Each ♦	Net Each ■
GJV	1/16, ⅛, 2/10	$0.78	$0.63
GJV	¼, 3/10, ⅜, ½, ¾	.54	.44
GJV	1, 1½, 1¾, 2, 2½, 3	.42	.35
GJV	4, 5, 6, 7, 8, 10	.44	.37

1/4 x 1-1/4 inch FUSES

FUSETRON GLASS TUBE FUSES



Dual-element slow blowing ¼" x 1¼". Link opens only on high overloads; thermal cutout functions on low overloads (cannot operate fast on any load). Carry 110%, open at 135% in 1 hour. MDL to 2-8/10 A and MDX 3 to 7 A UL Listed; MDL 8 to 30 A UL Recognized. MDL type has longer time lag than MDX type.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
MDL	1/100, 1/32	250	$0.91	$0.76
MDL	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, 7/10, ¾, 8/10, 1	250	.69	.58
MDX	1¼, 1½, 1-6/10, 2	250	.73	.60
MDL	1-2/10, 1¼, 1½, 1-6/10, 1-8/10, 2	125	.65	.56
MDL	2½, 2-8/10	125	.58	.47
MDX	3, 3-2/10, 4, 5	125	.58	.47
MDX	6¼, 7	125	.63	.53
MDL	3, 3-2/10, 4, 5, 6¼, 8, 10, 15, 20, 25, 30	32	.58	.47

1/4 x 1-1/4 inch FUSES



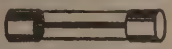
Fusetron dual-element fuse, slow-blowing type, ceramic tube. Carry 110%, open at 135% in 1 hour. UL Recognized to 20 A.

MDA	1/100, 1/32	250	$1.24	$1.03
MDA	1/16, 1/10, ⅛, 15/100, 175/1000, 3/16, 2/10, ¼, 3/10, ⅜, 4/10, ½, 6/10, ¾, 8/10	250	.90	.75
MDA	1, 1¼, 1½, 1-6/10, 2	250	.97	.81
MDA	2½, 3, 4, 5, 6¼, 7, 8, 10, 12, 15, 20, 25, 30	125	.71	.59

Buss® and Fusetron® Fuses, Holders

9/32 x 1-1/4 inch FUSES

AGS GLASS TUBE FUSES

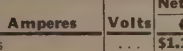


Test specification; carry, 110%, open at 135% within 1 hour except 35 and 40 amp units which open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit. **Note:** These units in sizes larger than 30 amps are not recommended for use in fuse clips or fuseholders as clips will not carry the high currents.

Buss No.	Amperes	Volts	Net Price For ♦	Net Price For ■
AGS	1/16	...	$1.19	$0.98
AGS	1/8	...	.84	.69
AGS	1/4, 1/2, 1, 2, 2 1/2, 3, 4	...	.46	.39
AGS	5, 6, 8, 10, 15	...	.33	.27
AGS	20, 25, 30	...	.27	.24
AGS	35, 40, 50	...	.37	.33

9/32 x 1-1/4 inch FUSES

CERAMIC TUBE FUSES

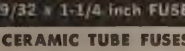


Carry at 110%, open at 135% in one hour; 30 and 40 amp units open at 300% in 2 to 4 seconds when tested in standard 30-amp test circuit.

ABS	1, 2, 3	250	$0.77	$0.65
ABS	5, 6, 8, 10	250	.74	.62
ABS	15, 20, 25, 30	125	.77	.65
ABS	40	32	.83	.69

9/32 x 1-1/4 inch FUSES

FUSETRON DUAL-ELEMENT FUSES

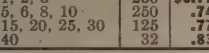


Glass tube, slow-blowing. Avoids needless blows from starting currents or surges, yet provides protection against short circuits or continuous overloads. Carry 110%, open at 135% in one hour. Approximate blowing time, 25 sec at 200% load, 8 sec at 300% load, 3 sec at 500% load.

MDM	1/10, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10, 3/4, 8/10, 1	250	$0.91	$0.76
MDM	1 1/4, 1-6/10, 2	125	.91	.76
MDM	2 1/2, 2-8/10, 3	125	.73	.60
MDM	3-2/10, 4, 5, 6 1/4, 8, 10, 15, 20, 25, 30, 35, 40	32	.73	.60

13/32 x 1-3/8 inch FUSES

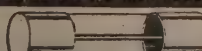
"QUICK-BLOWING" 600 V FUSES



Designed to protect circuits where quick-blowing characteristics are desired. Use HPC-L fuseholder or 3845 fuse block. UL Listed. Fiber tube 1 3/32" x 1 3/8".

Buss No.	Amperes	Net Each ♦	Net Each ■
BBS	2/10, 4/10, 3/4, 8/10 1, 2, 3, 4, 5	$1.17	$0.98
BBS	6, 7, 8, 10, 15, 20, 25, 30	1.17	.98

13/32 x 1-1/2 inch FUSES



Glass tube; carry 110%, open at 135% in one hour. Below 4 amp sizes UL Listed.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
AGU	1, 2, 3, 4, 5, 8, 10, 15	250	$0.52	$0.43
AGU	20, 25, 30, 35, 40, 50, 60	32	.46	.38

♦Less than $150 net. ■$150 net and over.

13/32 x 1-1/2 inch FUSES

MIDGET TYPE FUSES



Up to 15 amp size UL Listed.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
BAF	1, 3, 6, 6 1/4	250	$0.61	$0.51
BAF	10, 12, 15, 20, 25, 30	125	.48	.40

INDICATING, LAMINATED TUBE FUSES



Red button on indicating pin extends from end of fuse when fuse is blown. Units are built in accordance with Navy Specifications. These units may be used in Buss HPC-C fuseholders. Voltage, (1-15 amps), 250, others, 125 V.

MIN	1, 2, 3, 5, 10, 15, 20, 25, 30		$1.38	$1.18

SIGNAL OR VISUAL INDICATING FUSES

MIC fuses: Silver-plated indicating pin may be used as visual indicator, or to actuate a signal. **MIJ** fuses: Similar to MIC type, specially designed for complex circuitry as in compuyers. Under 20 A, 250 V; 20 A up, 32 V. UL Listed to 15 amps.

MIC	1, 2, 3, 5, 10, 15, 20, 25, 30		$1.44	$1.20
MIJ	1, 2, 5, 10, 15		1.80	1.50

FUSETRON FIBER TUBE FUSES



Dual-element slow-blowing type, 11/16" x 1 1/4" overall. Fuse link operates only on very high overloads or short circuits; thermal cutout functions on low overloads (cannot operate quickly on any overload, thus providing longer time lag). Carry 110%, open at 135% in 1 hour. 125 and 250 volt sizes UL Listed.

Buss No.	Amperes	Volts	Net Each ♦	Net Each ■
FNM	1/10, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10 8/10	250	$1.29	$1.06
FNM	1, 1 1/8, 1 1/4, 1-4/10, 1 1/2, 1-6/10 1-8/10, 2, 2 1/4, 2 1/2, 2-8/10, 3, 3-2/10, 3 1/2, 4, 4 1/2, 5, 5-6/10, 6, 6 1/4, 7, 8, 9, 10, 12, 15, 20, 25, 30	125	1.25	1.02

INDICATING FUSETRON FUSES

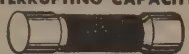


Similar to FNM types. Indicating pin extends from fuse when fuse blows. Use in signal fuse block or HPC-C fuseholder (larger than 10 amps units cannot be used in HPC-C). UL Listed in 0–15 amp sizes.

FNA	1/10, 15/100, 2/10, 1/4, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1 1/8, 1 1/4, 1-4/10, 1 1/2, 1-6/10, 1-8/10, 2, 2 1/4, 2-8/10, 3, 3-2/10, 3 1/2, 4, 4 1/2, 5, 5-6/10, 6, 6 1/4, 7, 8, 10		$2.29	$1.90
FNA	12, 15, 20, 25, 30		2.56	2.13

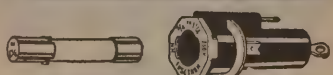
13/32 x 1-1/2 inch FUSES

HIGH INTERRUPTING CAPACITY FUSES



Type KTK—For use on circuits as high as 100,000 amps at 600 volts or less, AC only. Glass fiber melamine tubes and sand filler surrounding a silver fuse element. **Amperes:** 1/10, 1/8, 2/10, 1/4, 3/10, 1/2, 3/4, 1, 1 1/2, 2, 2 1/2, 3, 3 1/2, 4, 5, 6, 7, 8, 9, 10, 12, 15. Net Each, less than $150 net, **$3.02**; $150 net and over, **$2.51.** UL Listed.

TYPE C AND N FUSES, HOLDERS



C, N HC, HN

Matched glass fuses and fuseholders for specific size ranges. **Type N** fuses are dual-element time-delay or slow-blowing type. 0 to 1 1/4 amp sizes, 1/4" x 1 1/4"; 1-3/10 to 7 amp sizes, 1/4" x 1 1/4". **Type C** fuses are single-element quick-blowing type. 0 to 3 1/2 amp sizes, 1/4" x 1 1/4"; 3-6/10 to 10 amp sizes, 1/4" x 1 1/4". Holders rated at 250 volts. Fuses UL Listed, holders UL Recognized.

TYPE N FUSES

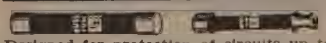
Amperes	Holder No. HN-	Volts	Net Each ♦	Net Each ■
1/32, 1/16, 1/10, 15/100, 2/10, 1/4, 3/10	0 to 3/10	250	$1.10 .84	$0.91 .69
4/10	3/10 to 1/2	250	.84	.69
1/2	3/10 to 1/2	250	.84	.69
6/10	1/2 to 3/4	250	.84	.69
7/10, 3/4	1/2 to 3/4	250	.84	.69
8/10, 1	3/4 to 1 1/4	250	.84	.69
1 1/4	3/4 to 1 1/4	250	.81	.65
1-6/10	1-3/10 to 1 3/4	125	.81	.65
2	1 3/4 to 2 1/2	125	.81	.65
2 1/2	1 3/4 to 2 1/2	125	.81	.65
2-8/10	2 1/2 to 3 1/2	125	.81	.65
3-2/10	2 1/2 to 3 1/2	125	.81	.65
3 1/2	2 1/2 to 3 1/2	125	.81	.65
4	3 1/2 to 5	125	.81	.65
5	3 1/2 to 5	125	.81	.65
6 1/4	5 to 7	125	.81	.65
7	5 to 7	125	.81	.65

TYPE C FUSES

Amperes	Holder No. HC-	Volts	Net Each ♦	Net Each ■
1/32	0 to 3/10	250	$1.32	$1.10
1/16	0 to 3/10	250	.85	.71
1/8, 1/4	0 to 3/10	250	.67	.58
1/4	0 to 3/10	250	.53	.45
3/10	0 to 3/10	250	.53	.45
3/8	3/10 to 1/2	250	.53	.45
1/2	3/10 to 1/2	250	.53	.45
3/4	1/2 to 3/4	250	.53	.45
1	3/4 to 1 1/4	250	.29	.26
1 1/4	3/4 to 1 1/4	250	.29	.26
1 1/2	1 1/4 to 1 3/4	250	.26	.26
1 3/4	1 1/4 to 1 3/4	250	.29	.26
2	1 3/4 to 2 1/2	250	.29	.26
2 1/2	1 3/4 to 2 1/2	250	.29	.26
3	2 1/2 to 3 1/2	250	.29	.26
3 1/2	2 1/2 to 3 1/2	250	.36	.28
4	3-6/10 to 5	250	.36	.28
5	3-6/10 to 5	250	.36	.28
6	5 to 7	250	.36	.28
7	5 to 7	250	.36	.28
8	7 to 10	250	.60	.49
10	7 to 10	250	.60	.49

Type HC and Type HN Fuseholders—All sizes (specify). Net Each, less than $150 net, **$0.59**; $150 net and over, **$0.51.**

HIGH VOLTAGE FUSES



Designed for protection of circuits up to 20 kW on DC and 30 kVA on AC.

Buss No.	Amperes	V	Net Each ♦	Net Each ■
HVA	3/8, 1/2, 3/4, 1, 1 1/2, 2	1000	$1.29	$1.05
HVB	1/2, 3/4, 1, 1 1/2, 2	2500	1.52	1.25
HVJ	1/8, 1/4, 1/2, 3/4, 1, 1 1/2, 2	5000	2.54	2.11
HVL	1/8, 1/4, 1/2, 3/4, 1, 1 1/2, 2	10K	4.03	3.35

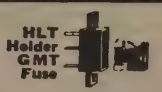
Buss® and Fusetron® Fuses, Holders

SFE STANDARD FUSES

Different amperages are different lengths, making it impossible to over-fuse. Glass tube, ¼" dia. Carry 110%, open at 135% in 1 hour. Made to SAE specifications and UL Listed, 32 volts or less.

Buss No.	Amperes	Lgth. In.	Net Each ♦	Net Each ■
SFE	4	½	$0.15	$0.13
SFE	6	¾	.15	.13
SFE	7½, 9	1	.15	.13
SFE	14	1⅛	.14	.12
SFE	20	1¼	.14	.12
SFE	30	1⅝	.20	.17

SIGNAL-INDICATING ALARM ACTIVATING TYPE UNIT

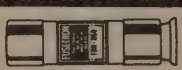


Takes only ¼" x 1⅛" space. Color indicator. Rated 300 V or less; 100% for 10 min.; open at 150% in 5 min. UL Recognized.

Buss No.	Amperes and Color of Indicator	Net Each ♦	Net Each ■
GMT	18/100*, ¼†, ½‡, 65/100§, ¾ǂ, 1*, 1½^, 2■, 3♦, 5‡, 7½ǂ, 10**	$1.24	$1.03
HLT	Holder, fits all GMT	1.31	1.08

Color of Indicator: *Yellow; †violet; ‡red; §black; ǂbrown; *gray; ^white; ■orange; ♦blue; ǂgreen; §black-white; **red-white.

FUSETRON DUAL-ELEMENT FUSES



Long time-lag prevents useless shut-downs caused by ordinary fuses opening on starting currents or other harmless overloads, yet protects against short-circuits. On normal installations will guard motors against burnout from overloads or single phasing. UL Listed. For motor running and circuit protection up to 250 volts.

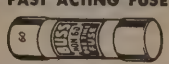
Buss No.	Amperes	Net Each ♦	Net Each ■
FRN-R	1/10, 15/100, 2/10, 3/10, 4/10, ½, 6/10, 8/10, 1, 1¼, 1-4/10, 1½, 1-6/10, 1-8/10, 2, 2¼, 2½, 2-8/10	$1.64	$1.36
FRN-R	3, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6, 6¼, 7, 8, 9, 10, 12	1.50	1.24
FRN-R	15, 17½, 20, 25, 30	1.38	1.13
FRN-R	35, 40, 45, 50, 60	2.55	2.12



FRN-R	70, 80, 90, 100	$5.74	$4.75

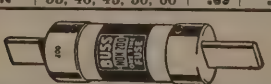
BUSS ONE-TIME FUSES

FAST ACTING FUSE



Each can be depended upon to operate as intended under all service conditions to 250 V. UL Listed.

Buss No.	Amperes	Net Each ♦	Net Each ■
NON	1, 2, 3, 4, 5, 6, 7, 8, 10, 12	$0.51	$0.42
NON	15, 20, 25, 30	.44	.37
NON	35, 40, 45, 50, 60	.69	.59



NON	70, 80, 90, 100	$3.04	$2.52

♦Less than $150 net. ■$150 net and over.

GRASSHOPPER FUSES



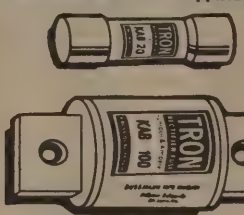
Alarm activating and signal indicating. Length: 1¹³⁄₁₆", except 35D (1⅜"), 35E (1⁶³⁄₆₄").

Buss No.	Amps	Blowing Time Amp	Blowing Time Sec.	Net Each ♦	Net Each ■
35A*	1½ǂ	2	90	$0.98	$0.83
35B*	1½**	2	90	.98	.83
35B*	2**	3	180	.98	.83
35C*	2ǂ	3	180	.98	.83
35D*	1½**	2	90	1.86	1.55
35E*	3**	4	300	.98	.83
35F*	½ǂ	¾	9	.98	.83
35G*	3**	4½	300	.98	.83
35H*	5**	6½	300	.98	.83
35J†	½ǂ	¾	90	1.40	1.17
35K†	1½ǂ	2	180	1.86	1.55
35L†	2ǂ	3	180	1.86	1.55
35M†	3**	4½	300	1.72	1.42
35N†	5**	6½	300	1.72	1.42
35P†	¾ǂ	1⅛	90	1.31	1.09
35R*	18/100ǂ	.270	90	1.31	1.09
35S†	¼ǂ	.375	90	1.40	1.17
35T*	65/100ǂ	1.1	180	1.40	1.17

Volts: *90 or less. †160 or less. Mounting Screw: ǂNo. 10. **No. 6.

TRON® RECTIFIER FUSES

For Protection of Semiconductor Rectifiers and Similar Applications



Especially designed for protection of semiconductor rectifiers, thyristors and other solid state devices. High interrupting capacity and very fast clearing to restrict let-through current and energy to very low values. Give safe short-circuit protection for systems with fault current to 200 kA at 600 volts or less. Carry 100%, open at 1000 secs between 150% and 180% of rating; open within 1 sec. at 250% of rating. **GBB** series UL Recognized.

GBB SERIES

Size, 1¼" lg. x ¼" dia.

Buss No.	Amperes	Max. Volts	Net Ea.♦
GBB	¼, 1, 1¼, 2, 3, 4, 5, 6, 7, 8, 9, 10	130	$1.75
GBB	12, 15, 20, 25, 30	65	1.75

KAA SERIES

Size, 1½" lg. x 1½" dia. Also available up to 1000 amps; prices on request.

KAA	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$2.50

KAW SERIES

Size, 1½" lg. x 1½" dia.

KAW	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 20, 25, 30	130	$2.57

KAB SERIES

Size, ⅜" dia. x 2" lg., values to 30 amps; 1½" dia. x 3½" lg., 70 amps to 200 amps. Also available up to 800 amps; prices on request.

KAB	½, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 12, 15, 17½, 20, 25, 30	250	$ 2.83
KAB	70, 80, 90, 100, 125, 150, 175, 200	250	12.85

KAC SERIES

Size, 2⅞" lg. x ⅝" dia. Also available up to 800 amps; prices on request.

KAC	1, 2, 3, 4, 5, 6, 7, 8, 10, 12, 15, 17½, 20, 25, 30	600	$ 4.22

BLOCKS FOR TRON® RECTIFIER FUSES

Buss No.	No. Poles	For Fuse* No.	For Fuse* Amp	Base Size, In.	Net Ea.
4515	1	KAA	1–30	¼ x2⅜	$1.
4525	2	or		1⅜ x2⅜	3.
4535	3	KAW		2⅛ x2⅜	4.
4386	1			¾ x3¼	2.
4287	2	KAB	1–30	2 x3½	4.
3959	3			3 x3½	7.
3556	1	KAB	70–100	1½ x3¼	5.
3521	3			5²³⁄₃₂x3¼	16.
3595	1	KAC	1–30	1¼ x3½	4.
3528	2			2½ x3½	8.

*GBB series, use any BUSS block for ¼ x 1¼ in. fuses.

BLOCKS FOR 1/4 x 5/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4511	1	Screw	$1.15
4521	2	Screw	2.26
4531	3	Screw	3.45

BLOCKS FOR 1/4 x 7/8 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4393	1	None	$0.64
4398	1	Solder	.64
4399	1	Screw	.94
4401	2	Solder	1.10
4402	2	Screw	1.82
4403	3	Solder	1.68
4404	3	Screw	2.71
4485	2	Solder	1.10
4517	1	Screw	1.15
4520	1	Solder	.64
4537	3	Screw	3.45

BLOCKS FOR 1/4 x 1 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3828-1	1	Solder	$0.58
3828-2	2	Solder	.91
3828-3	3	Solder	1.52
3828-4	4	Solder	1.86
3828-5	5	Solder	2.30
3828-6	6	Solder	2.73
3828-7	7	Solder	3.07
3828-8	8	Solder	3.48
3828-9	9	Solder	3.94
3828-10	10	Solder	4.37
3828-11	11	Solder	4.80
3828-12	12	Solder	5.29
4393	1	None	.64
4398	1	Solder	.64
4399	1	Screw	.94
4401	2	Solder	1.10
4402	2	Screw	1.82
4403	3	Solder	1.68
4404	3	Screw	2.71
4485	2	Solder	1.10
4514	1	Screw	1.15
4520	1	Solder	.64
4524	2	Screw	2.26
4534	3	Screw	3.45

BLOCKS FOR 1/4 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4405	1	Solder	$0.64
4408	2	Solder	1.10
4411	3	Solder	1.68
4512	1	Screw	1.15
4522	2	Screw	2.26
4532	3	Screw	3.45

Buss® and Fusetron® Fuses, Holders

BLOCKS FOR ¼ x 1¼ INCH FUSES (CONT'D)

All have molded black phenolic bases with corrosion resistant Albaloy plated spring clips.

SOLDER TERMINAL TYPE ON SMALL BASE

Buss No.	No. of Poles	Base Size, Inches	Net Ea.♦
3823-1	1	½ x 1⅝	$0.53
3823-2	2	1⅛ x 1⅝	.83
3823-3	3	1¾ x 1⅝	1.38
3823-4	4	2⅜ x 1⅝	1.69
3823-5	5	3 x 1⅝	2.09
3823-6	6	3⅝ x 1⅝	2.48
3823-7	7	4¼ x 1⅝	2.79
3823-8	8	4⅞ x 1⅝	3.16
3823-9	9	5½ x 1⅝	3.58
3823-10	10	6⅛ x 1⅝	3.97
3823-11	11	6¾ x 1⅝	4.36
3823-12	12	7⅜ x 1⅝	4.81

SCREW TERMINAL TYPE ON FULL BASE

3833-1	1	25/32 x 2⅜	$ 0.98
3833-2	2	1 11/16 x 2⅜	2.02
3833-3	3	2 19/32 x 2⅜	3.30
3833-4	4	3⅓ x 2⅜	4.11
3833-5	5	4 13/16 x 2⅜	5.11
3833-6	6	5 11/16 x 2⅜	6.13
3833-7	7	6 7/32 x 2⅜	7.15
3833-8	8	7⅛ x 2⅜	8.15
3833-9	9	8 1/32 x 2⅜	9.21
3833-10	10	8 15/16 x 2⅜	10.30
3833-11	11	9 27/32 x 2⅜	11.25
3833-12	12	10¾ x 2⅜	12.30

BLOCKS FOR 9/32 x 1-1/4 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
4413	1	Solder	$0.94
4414	1	Solder	.94
4415	1	Screw	1.61
4416	2	Solder	1.82
4418	2	Screw	2.84
4419	3	Solder	2.71
4481	1	Screw	1.61
4482	2	Screw	2.84
4483	3	Screw	4.27

BLOCKS FOR 13/32 x 1-3/8 inch FUSES

UL Recognized.

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3845	1	Screw	$2.01

BLOCKS FOR 13/32 x 1-1/2 inch FUSES

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
2807	1	Screw	$1.90
2808	2	Screw	3.08
2809	3	Screw	4.26
2810	1	Pressure lug	3.68
2811	2	Pressure lug	7.24
2812	3	Pressure lug	10.95
3792	1	Screw	2.01
4421	1	Solder	1.33
4422	1	Solder	1.33
4423	1	Screw	1.46
4424	2	Solder	2.71
4426	2	Solder	2.71
4427	2	Screw	2.84
4428	3	Solder	3.93
4429	3	Screw	4.27
4439	3	Screw	5.75
4415	1	Screw	1.61
4525	2	Screw	3.38
4535	3	Screw	4.97
4575	2	Screw	3.55

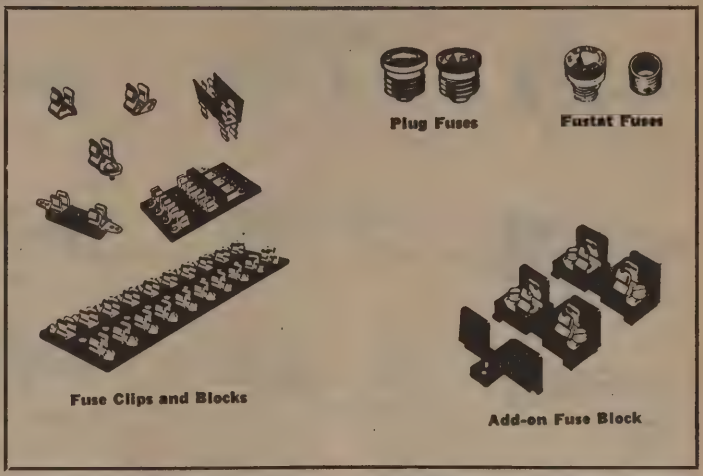
POLARIZED BLOCKS FOR SILICON RECTIFIERS

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3794	1	Solder	$0.60
3795	2	Solder	1.03

BLOCKS FOR HIGH VOLTAGE FUSES

Buss No.	No. of Poles	For Fuse	Net Ea.♦
4528	1	Buss HVA	$3.12
4529	1	Buss HVB	4.63
4530	1	Buss HVJ	6.47

♦Less than $150 net. ▪$150 net and over.



BLOCKS FOR 13/32 x 1-1/2 inch FUSES

SIGNAL FUSE BLOCK

Base dimensions, 2.688″ x 4.375″. For use with BUSS FAN and FNJ indicating fuses.

Buss No.	No. of Poles	Terminal Type	Net Ea.♦
3839	4	Screw	$12.81

ADD-ON FUSE BLOCKS

Make fuse block of any number of poles. Each single pole nests against next one; new poles can be added at any time. Order one end barrier plus any number of poles. Marking strip available to identify poles. Rated 30 A at 600 V. UL Recognized.

Buss No.	Description	Terminal Type	Net Ea.♦
3742	End barrier only	.....	$0.40
3743	One pole block only	Screw	2.68
3723	Marking strip, 50″	.....	1.25

BUSS FUSE CLIPS

Buss No.	Description	For Fuse Dia., In.	Net Ea.♦
3434	Insul. twin clip	¼	$0.49
5681-15	Clip	¼	.10
5678-14	Clip and terminal	¼	.11
5682-01	Clip	¼	.19
5682-41	Clip	¼	.081
5682-44	Clip	¼	.081
4567	Clip assembly	¼	.27
4583	Clip assembly	¼	.30
5682-02	Clip	¼	.19
5672-11	Clip	9/32	.14
5674-41	Clip	9/32	.13
4560	Clip assembly	9/32	.46
4585	Clip assembly	9/32	.66
5674-01	Clip	9/32	.31
5956-16	Clip	13/32	.12
5960-61	Clip	13/32	.17
5960-07	Clip	13/32	.53
5960-63	Clip	13/32	.17
4561	Clip assembly	13/32	.48
4586	Clip assembly	13/32	.80
5960-09	Clip	13/32	.53

CLEAR WINDOW PLUG FUSE

Shockproof fuses are insulated with porcelain-like high voltage power lines. Top cap protects fingers from shock and cuts. Always fit fuseholders. UL Listed.

Buss No.	Amperes	Net Each ♦	Net Each ▪
W	1, 2, 3, 5, 6, 8, 10	$0.36	$0.30
W	15, 20, 25, 30	.27	.24

FUSETRON DUAL-ELEMENT PLUG FUSES

Time-delay fuses recommended by N.E. Code. Will not blow under motor-starting or other current surges, yet provides full protection against heavy currents or short circuits. Rated up to 125 V. UL Listed.

Buss No.	Amperes	Net Each ♦	Net Each ▪
T	3/10, 4/10, ½, 6/10, 8/10, 1, 1-⅛, 1-¼, 1-4/10, 1-6/10, 1-8/10, 2, 2-¼	$1.11	$0.91
T	2½, 2-8/10, 3-2/10, 3½, 4, 4½, 5, 5-6/10, 6¼, 7, 8, 9, 10, 12, 14	1.11	.91
T	15, 20, 25, 30	.58	.46

FUSTAT FUSES AND ADAPTERS

Time-delay fuses with type S base recommended by N.E. Code. Prevents overfusing when used with proper size adapter. Rated up to 125 V. UL Listed. Adapters not included with Fustat fuses; order separately and specify size.

Fustat Fuses, Amps	Adapter	Fustat Fuses, Amps	Adapter
S3/10	SA1*	S3½	SA4
S4/10	SA1*	S4	SA4
S½	SA1*	S4½	SA5§
S6/10	SA1*	S5	SA5§
S8/10	SA1*	S5-6/10	SA6¼‡
S1	SA1*	S6¼	SA6¼‡
S1⅛	SA1¼*	S7	SA8
S1¼	SA1¼*	S8	SA8
S1-4/10	SA1-6/10*	S9	SA10•
S1-6/10	SA1-6/10*	S10	SA10•
S1-8/10	SA2	S12	SA15^
S2	SA2	S14	SA15^
S2½	SA2½†	S15	SA15^
S2½	SA2½†	S20	SA20
S2-8/10	SA3-2/10‡	S25	SA30▪
S3-2/10	SA3-2/10‡	S30	SA30▪

*Adapter also takes all smaller sizes. †Also takes 2, 1-8/10 sizes. ‡Also takes 2½, 2¼, 2, 1-8/10 sizes. §Also takes 4, 3½ sizes. ‡Also takes 5, 4½, 4, 3½ sizes. •Also takes 8, 7 sizes. ^Also takes 10, 9, 8, 7 sizes. ▪Also takes 20 size.

Buss Fustats—3/10 through 14 amp sizes. Net Each, less than $150 net..... **$1.12**

Buss Fustats—15 through 30 amp sizes. Net Each, less than $150 net..... **$0.59**

Fustat Adapters—SA1 through SA10. Net Each, less than $150 net..... **$0.56**

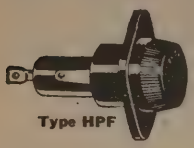
FUSE ASSORTMENT

Sturdy metal stand holds 130 fuses (5 fuses per box, 26 sizes in individual 5″ boxes). Inventory feature shows what fuses need reordering.



Buss No. 130—Net▪. **$48.92**

Buss® Fuseholders


Type HPF


Types HC and HN


Type HKL


Types HMR and HMS


Type HPC-D


Series HJ and HK


Type HKA

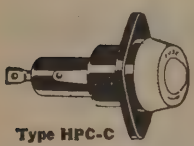

Series HR

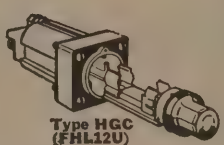

Series HH and HI

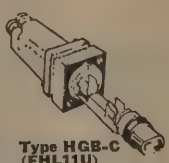

Types HLQ and HLR

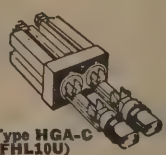

Series HCM


Type HLD No. 548


Type HPC-C


Type HGC (FHL12U)


Type HGB-C (FHL11U)


Type HGA-C (FHL10U)


Type HTA

Fuse voltage on lamp indicating holders shows operating range for lamp indication.

Fuse voltage on non-indicating holders shows maximum voltage of fuses commercially available that will fit holders.

LAMP-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HJL	Panel	100–250	20 A	$5.25

SIGNAL ACTIVATING-LAMP INDICATING FOR 1/4 x 1-1/4 inch INDICATING FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HKA	Panel	125 or less	5 A	$10.41

LAMP INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HGA	Panel	100–250	30 A	$15.70
HGA-C	Panel	100–250	30 A	17.34
HGB*	Panel	100–250	30 A	13.24
HGB-C	Panel	100–250	30 A	14.59
HKL	Panel	100–250	20 A	4.66
HKL-X	Panel	100–250	20 A	4.66
HKR	Panel	24–32	20 A	7.52
HKT	Panel	10–14	20 A	7.52
HKU	Panel	4–6	20 A	7.52
HKX	Panel	24–32	20 A	7.52

*UL Recognized.

VISUAL INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HLD*	Panel	125 or less	30 A.	$1.24

*UL Recognized.
◊Less than $150 net. ▪$150 net and over.

NON-INDICATING FOR 1/4 x 1 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HDI	Inline	250 or less	15 A	$0.44
HHI	Inline	250 or less	15 A	.66
HJM*	Panel	125 or less	30 A	1.05
HJM-CC	Panel	125 or less	30 A	1.05
HJM-H	Panel	125 or less	30 A	1.17
9969	Spring nut for panel mounting inline holder			.097

*UL Recognized.

SHIELDED NON-INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HMR	Panel	250 or less	30 A	$12.44

NON-INDICATING FOR 1/4 x 1-1/4 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.◊
HCM	Panel	250 or less	18 A	$1.63
HDJ	Inline	250 or less	15 A	.44
HHJ	Inline	250 or less	15 A	.66
HKP*	Panel	250 or less	30 A	1.05
HKP-CC	Panel	250 or less	30 A	1.05
HKP-H	Panel	250 or less	30 A	1.17
HLF*	Panel	250 or less	30 A	1.05
HMB*	Panel	250 or less	30 A	1.05
HTA*	Panel	250 or less	15 A	1.05
9969	Spring nut for panel mounting inline holders			.097
HMJ	HDJ holder†			.96
HRJ	HHJ holder†			1.22

*UL Recognized. †w/SFE-20 fuse, wire leads.

LAMP INDICATING FOR 13/32 x 1-1/2 inch FUSES

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.
HGC	Panel	200–500	30 A	$16.6

NON-INDICATING FOR 13/32 x 1-1/2 inch FUSES

UL Recognized.

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.
HPC-D	Panel	250 or less	30 A	$5.1

NON-INDICATING FOR 9/32 x 1-1/4 inch FUSES

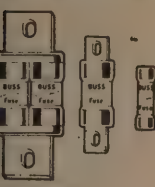
Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.
HCM	Panel	250 or less	18 A	$1.6

SHIELDED NON-INDICATING FOR 1/4 x 1 inch FUSE

Buss No.	Type of Mount	Fuse Voltage	Cur. Cap.	Net Ea.
HMS	Panel	250 or less	30 A	$12.4

OTHER STANDARD AND SPECIAL FUSES, BLOCKS AND HOLDERS

If the fuses, fuse blocks and holders shown do not fit your requirements ask for information on other types. Fuses and fuse mountings to meet JAN and Military specifications also available. If you have a special problem in protection, send description or sketch giving number of circuits, type of fuse, terminals, etc., desired. We welcome such inquiries.



FBP



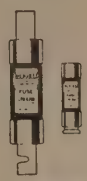
FRN-R



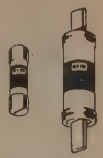
KRP-C



JHC



LPN-RK



REN

BUSS 700-VOLT SEMICONDUCTOR FUSES

miconductor fuses have very fast fault earing and extremely low I^2t and Ip letru values. Ideal for protection of diodes, CRs and other solid state devices. Have ll 700-volt rating, AC or DC. Two series ailable: **FEP,** compact dimensions to ve space; **FWP,** made for equipment with ountings for existing 700-volt fuses. UL cognized.

uss lo.	Amperes	Net Each ♦	Net Each ■
BP	15, 20, 25, 30	$ 4.98	$ 4.13
BP	35, 40, 45, 50, 60	11.93	9.90
BP	70, 80, 90, 100	15.27	12.65
BP	125, 150, 175, 200	20.44	16.95
BP	250, 300, 350, 400	33.30	27.60
BP	450, 500, 600	62.41	51.75
BP	700, 800	76.68	63.57
BP	900, 1000	99.93	82.83
WP	15, 20, 25, 30	4.99	4.15
WP	35, 40, 45, 50, 60	11.91	9.89
WP	70, 80, 90, 100	15.28	12.68
WP	125, 150, 175, 200	20.43	16.95
WP	250, 300, 350, 400	33.28	27.59
WP	450, 500, 600	62.40	51.73
WP	700, 800	76.68	63.57
WP	900, 1000	99.90	82.82

USETRON® DUAL ELEMENT FUSES

rovide motor running protection as well branch circuit protection. High interpting capacity; rating of 200,000 amres rms symmetrical. Lesser element sistance results in cooler operation. Fuseon dual element fuses also provide theral protection for panels and switches ainst damage from heat, due to poor ntact. Available in **FRN-R,** 0–14 A at 5 VDC/250 VAC and 15–600 A at 250 lts AC-DC; **FRS-R,** 0–14 A at 125 DC/600 VAC and 15–600 A at 600 volts C-DC. All series available in 1/10, /100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1-1/8, 1-1/4, 1-4/10, 1-6/10, 1-8/10, 2, 1/4, 2-1/2, 2-8/10, 3-2/10, 3-1/2, 4, 1/2, 5, 5-6/10, 6-1/4, 7, 8, 9, 10, 12, 15, -1/2, 20, 25, 30, 35, 40, 45, 50, 60, 70, , 90, 100, 110, 125, 150, 175, 200, 225, 0, 300, 350, 400, 450, 500 and 600 amres; specify when ordering. e.g., **FRN-R 10 amp.**

Buss No.	Amperes	Net Each ♦	Net Each ■
RN	1/10 to 2-8/10	$ 1.64	$ 1.36
RN	3 to 12	1.50	1.24
RN	15 to 30	1.38	1.13
RN	35 to 60	2.55	2.12
RN	70 to 100	5.74	4.75
RN	110 to 200	12.66	10.51
RN	225 to 400	22.82	18.92
RN	450 to 600	34.95	28.96
RN-R	1/10 to 2-8/10	1.64	1.36
RN-R	3 to 12	1.50	1.24
RN-R	15 to 30	1.38	1.13
RN-R	35 to 60	2.55	2.12
RN-R	70 to 100	5.74	4.75
RN-R	110 to 200	12.66	10.51
RN-R	225 to 400	22.82	18.92
RN-R	450 to 600	34.95	28.96
RS	1/10 to 2-8/10	3.75	3.10
RS	3 to 12	3.51	2.92
RS	15 to 30	3.10	2.57
RS	35 to 60	5.32	4.41
RS	70 to 100	11.03	9.14
RS	110 to 200	21.92	18.25
RS	225 to 400	44.04	36.52
RS	450 to 600	63.28	52.46
RS-R	1/10 to 2-8/10	3.75	3.10
RS-R	3 to 12	3.51	2.92
RS-R	15 to 30	3.10	2.57
RS-R	35 to 60	5.32	4.41
RS-R	70 to 100	11.03	9.14
RS-R	110 to 200	21.92	18.25
RS-R	225 to 400	44.04	36.52
RS-R	450 to 600	63.28	52.46

KRP-C HI-CAP TIME-DELAY FUSES

Safe fuse protection for heavy-duty mains and feeders carrying loads above 600 amps and up to 6,000 amps at 600 VAC or less. Interrupting rating of 200,000 amps rms symmetrical at 600 volts or less, plus great current limitation and long time-lag, permits accurate co-ordination with protective devices on feeders and distribution circuits. For essential information on selection of KRP-C fuses in proper ratings, ask for bulletin HCS and refer to time-current and current-limiting charts. KRP-C fuses conform to UL and CSA standards.

Buss No.	Amperes	Net Each ■
KRP-C 601	601	$132.49
KRP-C 650	650	132.49
KRP-C 700	700	132.49
KRP-C 800	800	132.49
KRP-C 900	900	132.49
KRP-C 1000	1000	132.49
KRP-C 1200	1200	132.49
KRP-C 1350	1350	171.13
KRP-C 1400	1400	171.13
KRP-C 1500	1500	171.13
KRP-C 1600	1600	171.13
KRP-C 1800	1800	225.69
KRP-C 2000	2000	225.69
KRP-C 2500	2500	296.11
KRP-C 3000	3000	344.72
KRP-C 3500	3500	460.17
KRP-C 4000	4000	460.17
KRP-C 4500	4500	563.20
KRP-C 5000	5000	563.20
KRP-C 6000	6000	689.86

JHC HI-CAP TIME-DELAY FUSES

JHC Hi-Cap time-delay fuses with 200,000 amperes rms interrupting capacity and great current limitation. Substantial time delay. Class J dimension. CSA listed at 100,000 amperes. For detailed information, ask for bulletin JHCS.

Buss No.	Amperes	Net Each ♦	Net Each ■
JHC	15, 20, 25, 30	$ 5.09	$ 4.22
JHC	35, 40, 45, 50, 60	9.19	7.61
JHC	70, 80, 90, 100	21.30	17.64
JHC	110, 125, 150, 175, 200	42.91	35.55
JHC	225, 250, 300, 350, 400	83.50	69.23
JHC	450, 500, 600	107.88	89.43

LOW-PEAK DUAL-ELEMENT FUSES

Low-peak fuses hold 500% load for minimum of 10 seconds. Interrupting rating of 200,000 amperes rms symmetrical. Limit currents to low values. Have short-circuit limiting element plus time-delay element. Conforms to UL, Class RK1 requirements. CSA listed; HRC Form 1, Class H. Available in **LPN-RK,** 0–14 A at 125 VDC/250 VAC and 15–600 A at 250 volts AC-DC; **LPS** and **LPS-RK,** 0–14 A at 125 VDC/600 VAC and 15–600 A at 250 VDC/600 VAC. All series available in 1/10, 15/100, 2/10, 3/10, 4/10, 1/2, 6/10, 8/10, 1, 1-1/8, 1-1/4, 1-6/10, 1-8/10, 2, 2-1/4, 2-1/2, 2-8/10, 3-2/10, 3-1/2, 4, 4-1/2, 5, 5-6/10, 6-1/4, 7, 8, 9, 10, 12, 15, 17-1/2, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500 and 600 amperes; specify when ordering.

LOW-PEAK DUAL-ELEMENT FUSES (CONTINUED)

Buss No.	Amperes	Net Each ♦	Net Each ■
LPN-RK	1/10 to 12	3.50	2.90
LPN-RK	15 to 30	3.21	2.66
LPN-RK	35 to 60	7.56	6.27
LPN-RK	70 to 100	17.70	14.67
LPN-RK	110 to 200	36.70	30.45
LPN-RK	225 to 400	73.23	60.71
LPN-RK	450 to 600	90.23	74.79
LPS-RK	1/10 to 12	4.83	4.00
LPS-RK	15 to 30	4.52	3.74
LPS-RK	35 to 60	9.64	7.99
LPS-RK	70 to 100	21.81	18.08
LPS-RK	110 to 200	43.75	36.26
LPS-RK	225 to 400	90.07	74.66
LPS-RK	450 to 600	112.56	93.31

SUPER-LAG® RENEWABLE FUSES

Super-Lag fuses with replaceable links offer economy and dependability far surpassing other fuse types. UL and CSA listed. Complete fuses and replacement links are available, each in two series: **REN** (complete fuse) and **LKN** (replacement link) for up to 250 volts AC-DC; **RES** (complete fuse) and **LKS** (replacement link) for up to 600 volts AC-DC. All series available in 1, 2, 3, 4, 5, 6, 10, 15, 20, 25, 30, 35, 40, 45, 50, 60, 70, 80, 90, 100, 110, 125, 150, 175, 200, 225, 250, 300, 350, 400, 450, 500 and 600 amperes; specify when ordering. e.g., **REN 600** for 600 ampere fuse.

Buss No.	Amperes	Net Each ♦	Net Each ■
REN	1 to 10	$ 2.06	$ 1.72
REN	12 to 30	1.87	1.54
REN	35 to 60	3.65	3.02
REN	70 to 100	8.18	6.78
REN	110 to 200	18.45	15.30
REN	225 to 400	33.32	27.63
REN	450 to 600	50.86	42.15
RES	1 to 10	5.08	4.22
RES	12 to 30	4.61	3.82
RES	35 to 60	7.25	6.01
RES	70 to 100	16.49	13.68
RES	110 to 200	31.99	26.51
RES	225 to 400	64.54	53.49
RES	450 to 600	92.08	76.34
RENEWAL LINKS			
LKN	1 to 10	$0.39	$0.34
LKN	12 to 30	.128	.106
LKN	35 to 60	.26	.23
LKN	70 to 100	.51	.42
LKN	110 to 200	1.03	.86
LKN	225 to 400	2.06	1.72
LKN	450 to 600	3.09	2.56
LKS	1 to 10	.65	.53
LKS	12 to 30	.27	.24
LKS	35 to 60	.51	.42
LKS	70 to 100	1.03	.86
LKS	110 to 200	1.91	1.61
LKS	225 to 400	3.61	2.98
LKS	450 to 600	5.01	4.16

♦Less than $150 net. ■$150 net and over.

CARTRIDGE FUSES TO SPECIFICATION MIL-F-15160

Type Designation MIL-F-15160	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FO1A250V 1/200A	$1596.00	$1330.00
FO1A250V 1/100A	1596.00	1330.00
FO1A250V 1/32A	1596.00	1330.00
FO1A250V 1/16A	654.00	545.00
FO1A250V 1/8A	564.00	470.00
FO1A250V 1/4A	300.00	250.00
FO1A250V 3/8A	300.00	250.00
FO1A250V 1/2A	300.00	250.00
FO1A125V 6/10A	300.00	250.00
FO1A125V 3/4A	300.00	250.00
FO1A125V 1A	204.00	170.00
FO1A125V 1-1/2A	204.00	170.00
FO1A125V 2A	204.00	170.00
FO1A125V 2-1/2A	204.00	170.00
FO1A125V 3A	204.00	170.00
FO1A125V 4A	204.00	170.00
FO1A125V 5A	204.00	170.00
FO2A250V 1/100A	1236.00	1030.00
FO2A250V 1/32A	1104.00	920.00
FO2A250V 1/16A	564.00	470.00
FO2A250V 1/8A	564.00	470.00
FO2A250V 15/100A	564.00	470.00
FO2A250V 175/1000A	564.00	470.00
FO2A250V 3/16A	564.00	470.00
FO2A250V 2/10A	564.00	470.00
FO2A250V 1/4A	318.00	265.00
FO2A250V 3/10A	318.00	265.00
FO2A250V 3/8A	318.00	265.00
FO2A250V 1/2A	318.00	265.00
FO2A250V 6/10A	318.00	265.00
FO2A250V 3/4A	318.00	265.00
FO2A250V 1A	204.00	170.00
FO2A250V 1-1/4A	204.00	170.00
FO2A250V 1-1/2A	204.00	170.00
FO2A250V 1-6/10A	204.00	170.00
FO2A250V 2A	204.00	170.00
FO2A250V 2-1/2A	204.00	170.00
FO2A250V 3A	204.00	170.00
FO2A250V 4A	264.00	220.00
FO2A250V 5A	264.00	220.00

Type Designation MIL-F-15160	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FO2A250V 8A	$ 264.00	$ 220.00
FO2A125V 8A	378.00	315.00
FO2A125V 10A	378.00	315.00
FO2B250V 1/100A	900.00	750.00
FO2B250V 1/32A	900.00	750.00
FO2B250V 4/100A	900.00	750.00
FO2B250V 1/16A	678.00	565.00
FO2B250V 1/10A	678.00	565.00
FO2B250V 1/8A	678.00	565.00
FO2B250V 15/100A	678.00	565.00
FO2B250V .175A	678.00	565.00
FO2B250V 3/16A	678.00	565.00
FO2B250V 2/10A	678.00	565.00
FO2B250V 1/4A	678.00	565.00
FO2B250V 3/10A	678.00	565.00
FO2B250V 3/8A	678.00	565.00
FO2B250V 4/10A	678.00	565.00
FO2B250V 1/2A	678.00	565.00
FO2B250V 6/10A	678.00	565.00
FO2B250V 7/10A	678.00	565.00
FO2B250V 3/4A	678.00	565.00
FO2B250V 8/10A	678.00	565.00
FO2B250V 1A	678.00	565.00
FO2B250V 1-1/4A	654.00	545.00
FO2B250V 1-1/2A	654.00	545.00
FO2B250V 1-6/10A	654.00	545.00
FO2B250V 2A	654.00	545.00
FO2B250V 2-1/2A	564.00	470.00
FO2B250V 2-8/10A	564.00	470.00
FO2B250V 3A	564.00	470.00
FO2B250V 3-2/10A	564.00	470.00
FO3A250V 1/4A	432.00	360.00
FO3A250V 1/2A	432.00	360.00
FO3A250V 1A	414.00	345.00
FO3A250V 2A	414.00	345.00
FO3A250V 3A	414.00	345.00
FO3A250V 4A	414.00	345.00
FO3A250V 5A	396.00	330.00
FO3A250V 6A	396.00	330.00

Type Designation MIL-F-15160	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FO3A250V 8A	$ 396.00	$ 330.00
FO3A250V 10A	396.00	330.00
FO3A250V 12A	396.00	330.00
FO3A250V 15A	360.00	300.00
FO3A125V 20A	612.00	510.00
FO3A125V 30A	702.00	585.00
FO3B250V 1/100A	1200.00	1000.00
FO3B250V 1/32A	1200.00	1000.00
FO3B250V 1/16A	918.00	765.00
FO3B250V 1/10A	918.00	765.00
FO3B250V 1/8A	918.00	765.00
FO3B250V 15/100A	918.00	765.00
FO3B250V 3/16A	918.00	765.00
FO3B250V 1/4A	864.00	720.00
FO3B250V 3/10A	864.00	720.00
FO3B250V 3/8A	864.00	720.00
FO3B250V 4/10A	864.00	720.00
FO3B250V 1/2A	864.00	720.00
FO3B250V 6/10A	864.00	720.00
FO3B250V 3/4A	864.00	720.00
FO3B250V 8/10A	864.00	720.00
FO3B250V 1A	864.00	720.00
FO3B250V 1-1/4A	864.00	720.00
FO3B250V 1-1/2A	864.00	720.00
FO3B250V 1-6/10A	864.00	720.00
FO3B250V 2A	864.00	720.00
FO3B250V 2-1/2A	636.00	530.00
FO3B250V 2-8/10A	636.00	530.00
FO3B250V 3A	636.00	530.00
FO3B250V 3-2/10A	636.00	530.00
FO6A250V 1A	1404.00	1170.00
FO6A250V 2A	1404.00	1170.00
FO6A250V 3A	1404.00	1170.00
FO6A250V 5A	1404.00	1170.00
FO6A250V 10A	1404.00	1170.00
FO6A250V 15A	1404.00	1170.00
FO7A250V 1A	486.00	405.00
FO7A250V 2A	486.00	405.00
FO7A250V 3A	486.00	405.00

Note: Fuses have nickel plated caps; for silver plated caps, add suffix **S** to part number. **$20.00** minimum silver plating charge per amperage. Add **$10.00** stamping charge each rating any quantity.

MICROFUSES TO MILITARY SPECIFICATION MIL-F-23419/2

Type Designation MIL-F-23419/2	Nearest Comm. Equiv.	Littelfuse Catalog No.	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FM02 125V 2MA (1/500A)	273000	274.002	$3120.00	2600.00
FM02 125V 5MA (1/200A)	Series	274.005	3120.00	2600.00
FM02 125V 10MA (1/100A)		274.010	3120.00	2600.00
FM02 125V 15MA (1/64A)		274.015	3120.00	2600.00
FM02 125V 13MA (1/32A)		274.031	3120.00	2600.00
FM02 125V 62MA (1/16A)		274.062	2688.00	2240.00
FM02 125V 1/10A		274.100	2688.00	2240.00
FM02 125V 1/8A		274.125	2688.00	2240.00
FM02 125V 2/10A		274.200	2688.00	2240.00
FM02 125V 1/4A		274.250	2688.00	2240.00
FM02 125V 3/10A		274.300	2688.00	2240.00

Type Designation MIL-F-23419/2	Nearest Comm. Equiv.	Littelfuse Catalog No.	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FM02 125V 4/10A	273000	274.400	$2688.00	$2240.00
FM02 125V 1/2A	Series	274.500	2688.00	2240.00
FM02 125V 6/10A		274.600	2688.00	2240.00
FM02 125V 3/4A		274.750	2688.00	2240.00
FM02 125V 1A		274001	2688.00	2240.00
FM02 125V 1-1/2A		27401.5	2688.00	2240.00
FM02 125V 2A		274002	2688.00	2240.00
FM02 125V 3A		274003	2688.00	2240.00
FM02 125V 4A		274004	2688.00	2240.00
FM02 125V 5A		274005	2688.00	2240.00

PICOFUSES TO MILITARY SPECIFICATION MIL-F-23419/4

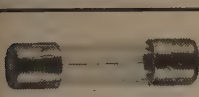
Type Designation MIL-F-23419/4	V Rating	Nearest Comm. Equiv.	Littelfuse Catalog No.	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FM04 1/8A	125 V	275000	277.125	1392.00	1160.00
FM04 1/4A	125 V	Series	277.250	1392.00	1160.00
FM04 3/8A	125 V		277.375	1392.00	1160.00
FM04 1/2A	125 V		277.500	1392.00	1160.00
FM04 3/4A	125 V		277.750	1194.00	995.00
FM04 1A	125 V		277001	1194.00	995.00

Type Designation MIL-F-23419/4	V Rating	Nearest Comm. Equiv.	Littelfuse Catalog No.	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FM04 1-1/2A	125 V	275000	27701.5	1194.00	$995.00
FM04 2A	125 V	Series	277002	1194.00	995.00
FM04 3A	125 V		277003	1194.00	995.00
FM04 4A	125 V		277004	1194.00	995.00
FM04 5A	125 V		277005	1194.00	995.00
FM04 7A	125 V		277007	1194.00	995.00

FUSEHOLDERS TO MILITARY SPECIFICATION MIL-F-19207

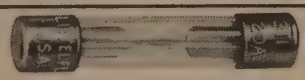
Type Designation MIL-F-19207	Description	Littelfuse Catalog No.	Nearest Comm. Equiv.	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
FHL 17G2	90-300 V Indicating	349250	344125	$6300.00	$5250.00
FHL 18G2-1	12-22 V Indicating	349012	344024	8796.00	7330.00
FHL 18G2-2	23-33 V Indicating	349023	344024	8796.00	7330.00
FHL 18G2-3	34-45 V Indicating	349034	.....	8796.00	7330.00
FHL 18G2-4	46-60 V Indicating	349046	.....	8796.00	7330.00
FHL 18G2-5	61-80 V Indicating	349061	.....	8796.00	7330.00
FHL 18G2-6	81-90 V Indicating	349081	.....	8796.00	7330.00
FHL 18G2-7	2.5-4 V Indicating	349002	.....	8796.00	7330.00
FHL 18G2-8	5-7 V Indicating	349005	.....	8796.00	7330.00
FHL 18G2-9	8-12 V Indicating	349008	.....	8796.00	7330.00
FHL 44G-1	Microfuse-Ind. 12- 22 V	284007	284006	8526.00	7105.00
FHL 44G-2	Microfuse-Ind. 23- 33 V	284008	284006	8808.00	7340.00
FHL 44G-3	Microfuse-Ind. 34- 45 V	284009	.....	8808.00	7340.00
FHL 44G-4	Microfuse-Ind. 46- 60 V	284010	.....	8808.00	7340.00
FHL 44G-5	Microfuse-Ind. 61- 80 V	284011	.....	8850.00	7375.00
FHL 44G-6	Microfuse-Ind. 81- 90 V	284012	.....	8850.00	7375.00
FHL 45G	Microfuse-Ind. 90-125 V	284013	284003	5670.00	4725.00
FHN 20G	3AG Miniature	342025	342004	2868.00	2390.00
FHN 26G2	3AG Miniature	342024	342012	2400.00	2000.00
FHN 19W	4AG Watertight	442008	442006	10632.00	8860.00
FHN 26W	3AG Watertight	342021	342006	10632.00	8860.00
FHN 55W	3AG-RF Shielded	340267	340255	16350.00	13625.00

Suffix **W** to Type Designation indicates watertight; suffix **G**, drip-proof.

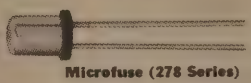

5 mm x 20 mm Fuses


Microfuse (273 Series)

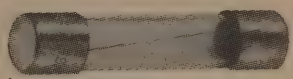

1AG (301 Series)


3AG 32 V (311 Series)


Picofuse (Axial leads)


Microfuse (278 Series)


7AG (303 Series)


3AG 250 V (312 Series)

5 x 20 MM SUBMINIATURE FUSES

. must for servicing European electronic quipment. **Size:** 5 mm x 20 mm (.2" x .8").

MEDIUM ACTING (250 V) TYPE M

low Time: 1/32 thru 1/10 amp—100%, fe; 210%, 2 min. max.; 400%, 0.04 to 0.50 ec. 1/8 thru 1-1/4 amp—100%, life; 210%, min. max.; 400%, 0.06 to 2.00 sec. /6 thru 5 amps—100%, life; 210%, 30 in. max.; 400%, 0.06 to 2.00 sec.

11.031 thru 211.100—Net per 5 . . **$11.49**
Net per 1000; 1–99 . . . . . **$2298.00;**
00–499 . . . . . **$1915.00**

11.200 thru 211005—Net per 5 . . . . **$3.05**
Net per 1000; 1–99 . . . . . **$612.00;**
00–499 . . . . . **$510.00**

L.F. No	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
11.031	1/32	211.600	6/10	211004	4
11.100	1/10	211.800	8/10	211005	5
11.200	2/10	211001	1		
11.250	1/4	2111.25	1–1/4		
11.300	3/10	21101.6	1–6/10		
11.400	4/10	211002	2		
11.500	1/2	211003	3		

FAST ACTING (250 V) TYPE F

low Time: 1/10 thru 6 amps—100%, fe; 210%, 30 min. max.; 400%, 0.3 sec. ax.

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1–99	100–499
12.100	1/10	$4.14	$828.00	$690.00
12.125	1/8	4.14	828.00	690.00
12.200	2/10	4.14	828.00	690.00
12.250	1/4	3.18	636.00	530.00
12.315	.315	3.18	636.00	530.00
12.400	4/10	3.18	636.00	530.00
12.500	1/2	3.18	636.00	530.00
12.630	.630	3.18	636.00	530.00
12.700	7/10	3.18	636.00	530.00
12.800	8/10	3.18	636.00	530.00
12001	1	2.55	510.00	425.00
121.25	1–1/4	2.55	510.00	425.00
1201.6	1–6/10	2.55	510.00	425.00
12002	2	2.55	510.00	425.00
1202.5	2–1/2	2.55	510.00	425.00
12003	3	2.82	564.00	470.00
12004	4	2.82	564.00	470.00
12005	5	2.82	564.00	470.00
1206.3	6.3	2.82	564.00	470.00

SLO BLO FUSES (250 V) TYPE T

low Time: 1/10 thru 1-1/4 amp—100%, fe; 210%, 2 min. max.; 400%, 0.3 to 2 sec. -6/10 thru 6 amps—100%, life; 210%, 0 min. max.; 400%, 0.3 to 3 sec.

13.100 thru 211.800—Net per 5 . . . **$4.80**
Net per 1000; 1–99 . . . . . **$960.00;**
00–499 . . . . . **$800.00**

213001 thru 213006—Net per 5 . . . . **$3.30**
Net per 1000; 1–99 . . . . . **$660.00;**
00–499 . . . . . **$550.00**

L.F. No	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
13.100	1/10	213.630	.630	21302.5	2–1/2
13.125	1/8	213.700	7/10	2133.15	3.15
13.200	2/10	213.800	8/10	213004	4
13.250	1/4	213001	1	213005	5
13.300	3/10	2131.25	1–1/4	21306.3	6–
13.400	4/10	21301.6	1–6/10		3/10
13.500	1/2	213002	2		

MICROFUSE SUBMINIATURE FUSES

For PC and other min. space uses. Plug-in types use holder; pigtail types for soldering. Short circuit interrupting capacity 125 V, 10,000 amps AC. **Blow Specs:** 100%, 4-hour min.; 200%, 5-sec. max. **Size:** ¼" dia. x 1¼" (fuse body). Plug-in, transparent cap type listed. Use prefix **272** for plug-in, metal cap; prefix **279** for pigtail, transparent cap; prefix **278** for pigtail, metal cap. **UL Recognized.**

Plug-In L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1–99	100–499
273.002	1/500	$15.10	3020.00	2520.00
273.005	1/200	15.10	3020.00	2520.00
273.010	1/100	15.10	3020.00	2520.00
273.015	1/64	15.10	3020.00	2520.00
273.031	1/32	15.10	3020.00	2520.00
273.050	1/20	7.89	1578.00	1315.00
273.062	1/16	7.89	1578.00	1315.00
273.100	1/10	7.89	1587.00	1315.00
273.125	1/8	7.89	1587.00	1315.00
273.200	2/10	7.89	1587.00	1315.00
273.250	1/4	7.89	1578.00	1315.00
273.300	3/10	7.89	1578.00	1315.00
273.400	4/10	7.89	1578.00	1315.00
273.500	1/2	7.89	1578.00	1315.00
273.600	6/10	7.89	1578.00	1315.00
273.700	7/10	7.89	1578.00	1315.00
273.750	3/4	7.89	1578.00	1315.00
273.800	8/10	7.89	1578.00	1315.00
273001	1	7.89	1578.00	1315.00
27301.5	1–1/2	7.89	1578.00	1315.00
273002	2	7.89	1578.00	1315.00
273003	3	7.89	1578.00	1315.00
273004	4	7.89	1578.00	1315.00
273005	5	7.89	1578.00	1315.00

SUBMINIATURE PICOFUSES (125 V)

Blow Time: 4 hours minimum at 100% of rating; 5 secs. max. at 200%. Amperage printed on body; can be color-coded at additional cost. Ceramic body only 3/32" lg. x 5/64" dia.; tin-coated copper leads .025" dia. Order **275** (prefix) for axial leads 1⅜" long for diode clip or in-circuit mounting; **276** for radial leads 1⅜" long for use in printed circuits or receptacles. **UL Recognized thru 10 amps.**

275.062 thru 275.500—Net per 5 . . . **$5.16**
Net per 1000; 1–99 . . . . . **$1031.00;**
100–499 . . . . . **$859.00**

275.750 thru 275010—Net per 5 . . . . **$4.24**
Net per 1000; 1–99 . . . . . **$848.00;**
100–499 . . . . . **$707.00**

275012 thru 275015—Net per 5 . . . . **$5.35**
Net per 1000; 1–99 . . . . . **$1069.00;**
100–499 . . . . . **$891.00**

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
275.062	1/16	27501.5	1–1/2	275007	7
275.125	1/8	275002	2	275010	10
275.250	1/4	27502.5	2–1/2	275012	12*
275.375	3/8	275003	3	275015	15*
275.500	1/2	27503.5	3–1/2	275020	20*
275.750	3/4	275004	4	275025	25*
275001	1	275005	5	275030	30*

*32 volt.

1AG FUSES (32 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 10-sec. max. Lg. ⅜", dia. ¼".

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1–99	100–499
301001	1	$1.14	$228.00	$190.00
30101.5	1–1/2	1.14	228.00	190.00
301002	2	1.14	228.00	190.00
30102.5	2–1/2	1.14	228.00	190.00
301003	3	1.14	228.00	190.00
301005	5	.84	168.00	140.00
301006	6	.84	168.00	140.00
30107.5	7–1/2	.84	168.00	140.00
301010	10	.84	168.00	140.00
301015	15	.84	168.00	140.00
301020	20	.84	168.00	140.00
301025	25	.84	168.00	140.00
301030	30	.84	168.00	140.00

7AG FUSES (32 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 10-sec. max. Lg. 1⅛", dia. ¼".

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1–99	100–499
303001	1	$1.14	$228.00	$190.00
30301.5	1–1/2	1.14	228.00	190.00
30302.5	2–1/2	1.14	228.00	190.00
303003	3	1.14	228.00	190.00
303004	4	1.14	228.00	190.00
303005	5	1.14	228.00	190.00
303006	6	1.14	228.00	190.00
303015	15	.75	150.00	125.00
303020	20	.75	150.00	125.00
303030	30	.75	150.00	125.00

SFE AUTO FUSES (32 V)

Blow Time: 110%, 4-hour min.; 135%, 0–1 hour; 150%, 20 amps or less 0–15 sec., 30 amps 0–30 sec. Dia. ¼". **UL Listed.**

L.F. No.	Amp Rtg.	Lgth. in.	Net per 5	Net per 1000, Lots of 1–99	100–499
307004	4	⅝	$0.75	$150.00	$125.00
307006	6	¾	.75	150.00	125.00
307007.5	7½	⅞	.66	132.00	110.00
307009	9	⅞	.66	132.00	110.00
307014	14	1 1/16	.66	132.00	110.00
307020	20	1¼	.66	132.00	110.00
307030	30	1 7/16	1.02	204.00	170.00

3AG FUSES (32 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1¼", dia. ¼". **UL Listed thru 30 amps.**

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1–99	100–499
311004	4	$1.02	$204.00	$170.00
311005	5	.84	168.00	140.00
311006	6	.84	168.00	140.00
311007	7	.84	168.00	140.00
31107.5	7–1/2	.84	168.00	140.00
311008	8	.84	168.00	140.00
311010	10	.84	168.00	140.00
311012	12	.84	168.00	140.00
311015	15	.84	168.00	140.00
311025	25	.72	144.00	120.00
311030	30	.72	144.00	120.00
311035	35	.84	168.00	140.00

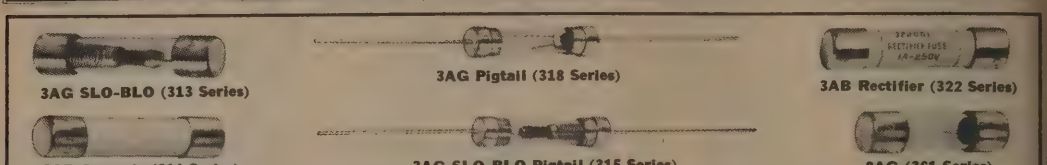
3AG FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. ¼". **UL Listed and CSA certified thru 8 amps.**

312.010	1/100	$6.18	$1236.00	1030.00
312.031	1/32	5.52	1104.00	920.00
312.062	1/16	2.82	564.00	470.00
312.100	1/10	2.82	564.00	470.00
312.125	1/8	2.82	564.00	470.00
312.150	15/100	2.82	564.00	470.00
312.175	.175	2.82	564.00	470.00
312.187	3/16	2.82	564.00	470.00
312.200	2/10	2.82	564.00	470.00
312.250	1/4	1.59	318.00	265.00
312.300	3/10	1.59	318.00	265.00
312.375	3/8	1.59	318.00	265.00
312.500	1/2	1.59	318.00	265.00
312.600	6/10	1.59	318.00	265.00
312.750	3/4	1.59	318.00	265.00
312001	1	1.02	204.00	170.00
3121.25	1–1/4	1.02	204.00	170.00
31201.5	1–1/2	1.02	204.00	170.00
31201.6	1–6/10	1.02	204.00	170.00
312002	2	1.02	204.00	170.00
31202.5	2–1/2	1.02	204.00	170.00
312003	3	1.02	204.00	170.00
312004	4	1.32	264.00	220.00
312005	5	1.32	264.00	220.00
312006	6	1.32	264.00	220.00
312007	7*	1.38	276.00	230.00
312008	8*	1.89	378.00	315.00
312010	10*	1.89	378.00	315.00

*125 volt.

LITTELFUSE® Tracor SUBSIDIARY OF QUALITY FUSES



3AG SLO BLO FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1¼", dia. ¼". **UL Listed and CSA Certified thru 7 amps. UL Recognized 8 thru 30 amps.**

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
313.010	1/100	$4.50	$900.00	$750.00
313.031	1/32	4.50	900.00	750.00
313.040	4/100	4.50	900.00	750.00
313.062	1/16	3.39	678.00	565.00
313.100	1/10	3.39	678.00	565.00
313.125	1/8	3.39	678.00	565.00
313.150	15/100	3.39	678.00	565.00
313.175	.175	3.39	678.00	565.00
313.187	3/16	3.39	678.00	565.00
313.200	2/10	3.39	678.00	565.00
313.250	1/4	3.39	678.00	565.00
313.300	3/10	3.39	678.00	565.00
313.375	3/8	3.39	678.00	565.00
313.400	4/10	3.39	678.00	565.00
313.500	1/2	3.39	678.00	565.00
313.600	6/10	3.39	678.00	565.00
313.700	7/10	3.39	678.00	565.00
313.750	3/4	3.39	678.00	565.00
313.800	8/10	3.39	678.00	565.00
313001	1	3.39	678.00	565.00
31301.2	1-2/10	3.27	654.00	545.00
3131.25	1-1/4	3.27	654.00	545.00
31301.5	1-1/2	3.27	654.00	545.00
31301.6	1-6/10	3.27	654.00	545.00
31301.8	1-8/10	3.27	654.00	545.00
313002	2	3.27	654.00	545.00
3132.25	2-1/4	3.27	654.00	545.00
31302.5	2-1/2	2.82	564.00	470.00
31302.8	2-8/10	2.82	564.00	470.00
313003	3	2.82	564.00	470.00
31303.2	3-2/10	2.82	564.00	470.00
313004	4	2.82	564.00	470.00
313005	5	2.82	564.00	470.00
3136.25	6-1/4	2.82	564.00	470.00
313007	7	2.82	564.00	470.00
313008	8*	2.82	564.00	470.00
313010	10*	2.82	564.00	470.00
313012	12*	2.82	564.00	470.00
313015	15*	2.82	564.00	470.00
313020	20*	2.82	564.00	470.00
313025	25*	2.82	564.00	470.00
313030	30*	2.82	564.00	470.00

*32 volt.

3AB CERAMIC BODY FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 15-sec. max. Length 1¼", dia. ¼". **UL Listed thru 15 A. CSA Certified thru 5 amps.**

314.125	1/8	$2.16	$432.00	$360.00
314.250	1/4	2.16	432.00	360.00
314.375	3/8	2.16	432.00	360.00
314.500	1/2	2.16	432.00	360.00
314.750	3/4	2.16	432.00	360.00
314001	1	2.07	414.00	345.00
314002	2	2.07	414.00	345.00
314003	3	2.07	414.00	345.00
314004	4	2.07	414.00	345.00
314005	5	1.98	396.00	330.00
314006	6	1.98	396.00	330.00
314007	7	1.98	396.00	330.00
314008	8	1.98	396.00	330.00
314010	10	1.98	396.00	330.00
314012	12	1.98	396.00	330.00
314015	15	1.80	360.00	300.00
314020	20	3.06	612.00	510.00
314025	25*	3.75	750.00	625.00
314030	30*	3.51	702.00	585.00

*125 volt.

3AG SLO BLO PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg. 1¼", dia. ¼". 1½" pigtails. **UL Listed and CSA Certified.**

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
315.010	1/100	$5.64	$1128.00	$940.00
315.031	1/32	5.64	1128.00	940.00
315.040	4/100	5.64	1128.00	940.00
315.062	1/16	4.23	846.00	705.00

3AG SLO BLO PIGTAIL FUSES (CONT'D)

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
315.100	1/10	$4.23	$846.00	$705.00
315.125	1/8	4.23	846.00	705.00
315.150	15/100	4.23	846.00	705.00
315.175	.175	4.23	846.00	705.00
315.187	3/16	4.23	846.00	705.00
315.200	2/10	4.23	846.00	705.00
315.250	1/4	4.23	846.00	705.00
315.300	3/10	4.23	846.00	705.00
315.375	3/8	4.23	846.00	705.00
315.400	4/10	4.23	846.00	705.00
315.500	1/2	4.23	846.00	705.00
315.600	6/10	4.23	846.00	705.00
315.700	7/10	4.32	864.00	720.00
315.750	3/4	4.32	864.00	720.00
315.800	8/10	4.32	864.00	720.00
315001	1	4.32	864.00	720.00
31501.2	1-2/10	4.11	822.00	685.00
3151.25	1-1/4	4.11	822.00	685.00
31501.5	1-1/2	4.11	822.00	685.00
31501.6	1-6/10	4.11	822.00	685.00
31501.8	1-8/10	4.11	822.00	685.00
315002	2	4.11	822.00	685.00
31502.25	2-1/4	4.11	822.00	685.00
31502.5	2-1/2	3.39	678.00	565.00
31502.8	2-8/10	3.39	678.00	565.00
315003	3	3.39	678.00	565.00
31503.2	3-2/10	3.39	678.00	565.00
315004	4	3.39	678.00	565.00
315005	5	3.39	678.00	565.00
3156.25	6-1/4	3.39	678.00	565.00
315007	7	3.39	678.00	565.00

3AG PIGTAIL FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1¼", dia. ¼". 1½" pigtails. **UL Listed and CSA Certified.**

318.010	1/100	$7.50	$1500.00	1250.00
318.031	1/32	7.50	1500.00	1250.00
318.062	1/16	3.84	768.00	640.00
318.100	1/10	3.84	768.00	640.00
318.125	1/8	3.84	768.00	640.00
318.150	15/100	3.84	768.00	640.00
318.175	.175	3.84	768.00	640.00
318.187	3/16	3.84	768.00	640.00
318.200	2/10	3.84	768.00	640.00
318.250	1/4	2.52	504.00	420.00
318.300	3/10	2.52	504.00	420.00
318.375	3/8	2.52	504.00	420.00
318.500	1/2	2.52	504.00	420.00
318.600	6/10	2.52	504.00	420.00
318.750	3/4	2.52	504.00	420.00
318001	1	2.07	414.00	345.00
3181.25	1-1/4	2.07	414.00	345.00
31801.5	1-1/2	2.07	414.00	345.00
31801.6	1-6/10	2.07	414.00	345.00
318002	2	2.07	414.00	345.00
31802.5	2-1/2	2.07	414.00	345.00
318003	3	2.07	414.00	345.00
318004	4	2.16	432.00	360.00
318005	5	2.16	432.00	360.00
318006	6	2.16	432.00	360.00
318007	7*	2.16	432.00	360.00
318008	8*	2.16	432.00	360.00

*125 volt.

3AB CERAMIC BODY RECTIFIER FUSES (250 V)

For protection of silicon controlled rectifiers and similar solid-state devices. Extremely fast acting.

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
322001	1	$7.98	$1596.00	1330.00
3221.25	1-1/4	7.98	1596.00	1330.00
322002	2	7.98	1596.00	1330.00
322003	3	7.98	1596.00	1330.00
322004	4	7.98	1596.00	1330.00
322005	5	7.98	1596.00	1330.00
322006	6	7.98	1596.00	1330.00
322007	7	7.98	1596.00	1330.00
322008	8	7.98	1596.00	1330.00
322009	9	7.98	1596.00	1330.00
322010	10	7.98	1596.00	1330.00

3AB RECTIFIER FUSES (CONT'D)

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
322012	12*	$7.98	$1596.00	1330.00
322015	15*	7.98	1596.00	1330.00
322020	20*	7.98	1596.00	1330.00
322025	25*	7.98	1596.00	1330.00
322030	30*	7.98	1596.00	1330.00

*65 volt.

3AB CERAMIC SLO BLO FUSES (250 V)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%, 5-sec. min. Lg., 1¼", dia., ¼". **UL Listed thru 8/10 amp.**

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	100-499
323.010	1/100	$6.00	$1200.00	1000.00
323.031	1/32	6.00	1200.00	1000.00
323.062	1/16	4.59	918.00	765.00
323.100	1/10	4.59	918.00	765.00
323.125	1/8	4.59	918.00	765.00
323.150	15/100	4.59	918.00	765.00
323.175	.175	4.59	918.00	765.00
323.187	3/16	4.59	918.00	765.00
323.200	2/10	4.32	864.00	720.00
323.250	1/4	4.32	864.00	720.00
323.300	3/10	4.32	864.00	720.00
323.375	3/8	4.32	864.00	720.00
323.400	4/10	4.32	864.00	720.00
323.500	1/2	4.32	864.00	720.00
323.600	6/10	4.32	864.00	720.00
323.700	7/10	4.32	864.00	720.00
323.750	3/4	4.32	864.00	720.00
323.800	8/10	4.32	864.00	720.00
323.001	1	4.32	864.00	720.00
32301.2	1-2/10	4.32	864.00	720.00
3231.25	1-1/4	4.32	864.00	720.00
32301.5	1-1/2	4.32	864.00	720.00
32301.6	1-6/10	4.32	864.00	720.00
323002	2	4.32	864.00	720.00
32302.5	2-1/2	3.18	636.00	530.00
32302.8	2-8/10	3.18	636.00	530.00
323003	3	3.18	636.00	530.00
32303.2	3-2/10*	3.18	636.00	530.00
323004	4*	3.18	636.00	530.00
323005	5*	3.18	636.00	530.00
3236.25	6-1/4*	3.18	636.00	530.00
323007	7*	3.18	636.00	530.00
323008	8†	3.18	636.00	503.00
323010	10†	3.18	636.00	530.00
323015	15†	3.18	636.00	530.00
323020	20†	3.18	636.00	530.00
323025	25†	3.18	636.00	530.00
323030	30†	3.18	636.00	530.00

*125 volt; †32 volt.

8AG INSTRUMENT FUSES (250 V)

Blow Time: 100%, 4-hour min.; 200%, 5-sec. max. Length 1", dia. ¼".

361.002	1/500	$17.82	$3564.00	2970.00
361.005	1/200	7.98	1596.00	1330.00
361.010	1/100	7.98	1596.00	1330.00
361.015	1/64	7.98	1596.00	1330.00
361.031	1/32	7.98	1596.00	1330.00
361.062	1/16	3.27	654.00	545.00
361.100	1/10	2.82	564.00	470.00
361.125	1/8	2.82	564.00	470.00
361.187	3/16	2.82	564.00	470.00
361.200	2/10	2.82	564.00	470.00
361.250	1/4	1.50	300.00	250.00
361.375	3/8	1.50	300.00	250.00
361.400	4/10	1.50	300.00	250.00
361.500	1/2	1.50	300.00	250.00
361.750	3/4	1.50	300.00	250.00
361001	1	1.02	204.00	170.00
36101.5	1-1/2	1.02	204.00	170.00
361002	2	1.02	204.00	170.00
361003	3*	1.02	204.00	170.00
361004	4*	1.02	204.00	170.00
361005	5*	1.02	204.00	170.00

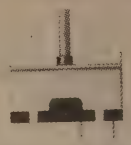
*125 volt.

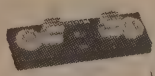
FUSES, CIRCUIT BREAKERS AND FUSEBLOCKS

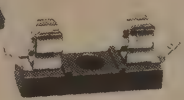
LITTELFUSE® Tracor

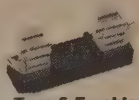

5AG Fuses


ATO Fuses


815 Series Circuit Breaker


Type T Fuseblock


Type Q Fuseblock


Type S Fuseblock

8AG NORMAL BLO FUSES

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1", dia. ¼". **UL Listed thru 5 amps. CSA Certified ¼ thru 5 amps.**

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
362.125	1/8**	$2.82	$564.00	$470.00
362.250	1/4**	1.50	300.00	250.00
362.375	3/8**	1.50	300.00	250.00
362.500	1/2**	1.50	300.00	250.00
362.750	3/4**	1.50	300.00	250.00
362001	1**	1.02	204.00	170.00
362001.5	1-1/2*	1.02	204.00	170.00
362002	2*	1.02	204.00	170.00
362002.5	2-1/2*	1.02	204.00	170.00
362003	3*	1.02	204.00	170.00
362004	4*	1.02	204.00	170.00
362005	5*	1.02	204.00	170.00
362006	6*	1.02	204.00	170.00
362008	8†	1.02	204.00	170.00
362010	10†	1.02	204.00	170.00
362012	12†	1.02	204.00	170.00
362015	15†	1.02	204.00	170.00
362020	20†	1.02	204.00	170.00
362025	25†	1.02	204.00	170.00
362030	30†	1.02	204.00	170.00

**250 volt. *125 volt. †32 volt.

4AG FUSES—CONTACT FACTORY

5AG FUSES (32 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 10-sec. max. Length 1½", dia. 13/32".

511010	10	$2.43	$486.00	$405.00
511015	15	2.43	486.00	405.00
511020	20	2.43	486.00	405.00
511025	25	2.43	486.00	405.00
511030	30	2.43	486.00	405.00
511035	35	2.43	486.00	405.00
511040	40	2.43	486.00	405.00
511050	50	2.43	486.00	405.00
511060	60	2.43	486.00	405.00

5AG QUICK-ACTING FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. max. Length 1½", dia. 13/32".

512001	1	$2.43	$486.00	$405.00
512002	2	2.43	486.00	405.00
512003	3	2.43	486.00	405.00
512004	4	2.43	486.00	405.00
512005	5	2.43	486.00	405.00
512008	8*	2.43	486.00	405.00

*125 volt.

5AG SLO BLO FUSES (250 V OR LESS)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 5-sec. min. Length 1½", dia. 13/32".

513.500	1/2	$7.32	$1464.00	1220.00
513001	1	7.32	1464.00	1220.00
513002	2	7.32	1464.00	1220.00
513003	3	7.02	1404.00	1170.00
513004	4	7.02	1404.00	1170.00
513005	5*	7.02	1404.00	1170.00
513010	10†	7.02	1404.00	1170.00
513015	15†	7.02	1404.00	1170.00
513020	20†	7.02	1404.00	1170.00
513025	25†	7.02	1404.00	1170.00
513030	30†	7.02	1404.00	1170.00

*125 volt. †32 volt.

5AB CERAMIC FUSES (250 V)

Blow Time: 110%, 4-hour min.; 135%, 1 hour max.; 200%, 15-sec. max. Length 1½", dia. 13/32". **UL Listed thru 15 amps.**
Net per 5 ..... $3.27
Net per 1000; 1-99 ..... $654.00;
100-499 ..... $545.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
514001	1	514007	7
514002	2	514008	8
514003	3	514010	10
514003.5	3-1/2	514015	15
514005	5	514020	20
514006	6	514025*	25
5146.25	6-1/4	514030*	30

*125 volt.

5AB SLO BLO FUSES (CERAMIC)

Blow Time: 110%, 4-hr. min.; 135%, 1 hr. max.; 200%; 5 sec. min. Lg. 1½", dia. 13/32". Voltage rating 250 V except as noted. **UL Listed thru 3½ amps.**
523.100 thru 523.800—Net per 5 ... $7.32
Net per 1000; 1-99 ..... $1464.00;
100-499 ..... $1220.00
523001 thru 523030—Net per 5 ..... $7.02
Net per 1000; 1-99 ..... $1404.00;
100-499 ..... $702.00

L.F. No.	Amp Rtg.	L.F. No.	Amp Rtg.
523.100	1/10	523003	3
523.150	15/100	523003.2	3-2/10
523.200	2/10	523003.5	3-1/2
523.300	3/10	523004	4
523.400	4/10	523004.5	4-1/2
523.500	1/2	523005	5
523.600	6/10	52305.6	5-6/10
523.800	8/10	5236.25	6-1/4
523001	1	523007	7
5231.12	1-1/8	523008	8
5231.25	1-1/4	523009	9
52301.4	1-4/10	523010	10
52301.6	1-6/10	523012	12*
52301.8	1-8/10	523015	15*
523002	2	523020	20†
5232.25	2-1/4	523025	25†
52302.5	2-1/2	523030	30†
52302.8	2-8/10		

*125 volt. †32 volt.

ATO BLADE TYPE TERMINAL FUSES (32 V)

Blow Time: 110%, 100 hours min.; 135%, 1500 sec. max.; 200%, 5 sec. max.; 350%, 0.08 sec. min.

L.F. No.	Amp Rating	Net per 5	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
ATO003	3	$1.32	$264.00	$220.00
ATO004	4	1.32	264.00	220.00
ATO005	5	1.32	264.00	220.00
ATO007.5	7.5	1.32	264.00	220.00
ATO010	10	1.32	264.00	220.00
ATO015	15	1.32	264.00	220.00
ATO020	20	1.32	264.00	220.00
ATO025	25	1.32	264.00	220.00
ATO030	30	1.32	264.00	220.00

HEAVY DUTY MANUAL RESET CIRCUIT BREAKERS

For 125 VAC. Size, 1¾" x 13/16" x ½". **UL Recognized and CSA Certified 8151.75 thru 815007.** Suffix **C** indicates individually carded.
815.650C thru 81501.5C—Net Ea. ... $2.81
815.650 thru 81501.5—
Box of 5. Net Each $2.72
8151.75C thru 815007C—Net Ea. ... $2.06
815.175 thru 815007—
Box of 5. Net Each $2.01

L.F. No.	Nom. Trip Rating Amps	L.F. No.	Nom. Trip Rating Amps
815.650	.650	8152.75	2.75
815.800	.800	815003	3
815001	1	8153.25	3.25
8151.25	1.25	81503.5	3.5
81501.5	1.5	8153.75	3.75
8151.75	1.75	815004	4
815002	2	81504.5	4.5
8152.25	2.25	815005	5
81502.5	2.5	815006	6
81502.7	2.7	815007	7

L.F. No. 815(000)PA—Circuit Breaker Adapter Plate—Net per 1000; Lots of 1-99 ..... $300.00; 100-499 ..... $250.00

DUAL CIRCUIT BREAKERS

Exact replacements for RCA.
Net per bubble packed card $3.75

L.F. No.	RCA No.	Term. 1 and 2 Hold	Term. 3 and 4 Hold
816100C	120784	1.30 A	.375 A
816101C	121719	.900 A	.325 A
816102C	1471912-4	.950 A	.400 A
816103C	130077	.175 A	.400 A

3AG FUSEBLOCKS WITH SCREW TERMINALS—TYPE T

Clips: Nickel plated spring brass. **UL Recognized.**

L.F. No.	Description	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
356001	1 pole	$ 978.00	$ 815.00
356002	2 pole	1968.00	1640.00
356003	3 pole	3282.00	2735.00
356012	12 pole	12000.00	10000.00

Note: Contact factory for price and availability of fuseblocks with silver plated beryllium copper clips (359 000 series)

3AG FUSEBLOCKS WITH SOLDER TERMINALS—TYPE S

Clips: Tin plated spring brass.

357001*	1 pole, molded base	$ 552.00	$ 460.00
357002*	2 pole, molded base	900.00	750.00
357003	3 pole	1458.00	1215.00
357012	12 pole	5064.00	4220.00

Note: Contact factory for price and availability of fuseblocks with silver plated beryllium copper clips (357 200 series). ***UL Recognized.**

3AG FUSEBLOCKS WITH 3/16" Q. C. TERMINALS—TYPE Q

Clips: Nickel plated spring brass.

350327*	1 pole, molded base	$ 552.00	$ 460.00
350328*	2 pole, molded base	918.00	765.00
351603	3 pole	1878.00	1565.00
351612	12 pole	7500.00	6250.00

***UL Recognized.**

3AG FUSEBLOCKS WITH ¼" Q.C. TERMINALS—TYPE Q

Clips: Nickel plated spring brass.

350329*	1 pole, molded base	$ 750.00	$ 625.00
350330*	2 pole, molded base	918.00	765.00
351103	3 pole	1878.00	1565.00
351112	12 pole	7500.00	6250.00

***UL Recognized.**

3AG FUSEBLOCKS

L.F. No.	Description	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
351010	Spare, 1 pole	$2028.00	$1690.00
353001	Panel, 1 pole	3888.00	3240.00

8AG FUSEBLOCKS WITH SOLDER TERMINALS—TYPE S

Clips: Tin plated spring brass.

387001	1 pole	$ 564.00	$ 470.00
387002	2 pole	1944.00	1620.00
387003	3 pole	2832.00	2360.00
387012	12 pole	10794.00	8995.00

5AG FUSEBLOCKS WITH SCREW TERMINALS—TYPE T

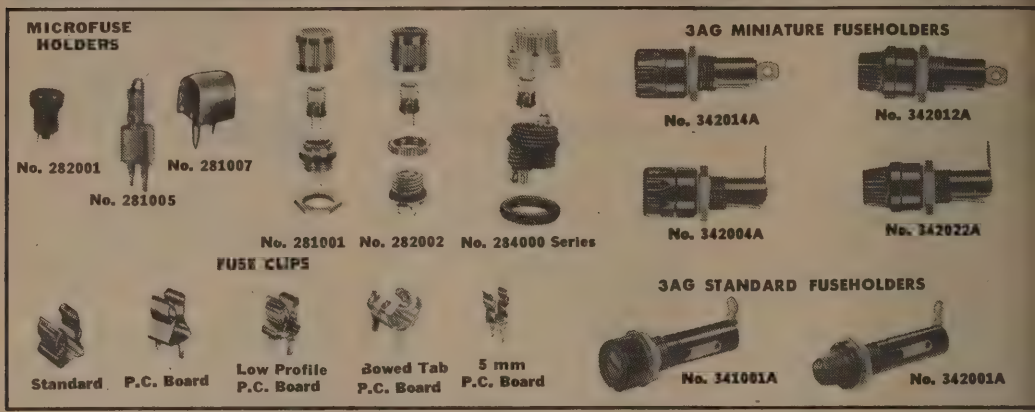
Clips: Silver plated beryllium copper.

556001	1 pole	$2526.00	$2105.00
556002	2 pole	4962.00	4135.00
556003	3 pole	7476.00	6230.00
556012	12 pole	29190.00	24325.00

TV SNAP-ON FUSEHOLDERS

L.F. No.	Description	Net Each
094024	24 holders*	$11.86
094025	10 holders#	4.61

*Display card. #Box of 10. †Bulk.



STANDARD FUSE CLIPS (SPRING BRASS NICKEL PLATED)

L.F. No.	Fuse Adaptation	Type	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
101001	SFE, 3AG, 8AG, 3AB	Ear	$ 84.00	$ 70.00
101002	SFE, 3AG, 8AG, 3AB	Earless	102.00	85.00
101003*	SFE, 3AG, 8AG, 3AB	Lug	102.00	85.00
103001	4AG, 4AB	Ear	132.00	110.00
104002	4AG, 4AB	Earless	168.00	140.00
105001	5AG	Ear	168.00	140.00
105002	5AG	Earless	168.00	140.00

*Unplated, bright dip.

STANDARD FUSE CLIPS (BERYLLIUM COPPER, SILVER PLATED)

121001	SFE, 3AG, 8AG, 3AB	Ear	$222.00	$185.00
121002	SFE, 3AG, 8AG, 3AB	Earless	222.00	185.00
121004	SFE, 3AG, 8AG, 3AB	Lug	450.00	375.00
123001	4AG, 4AB	Ear	348.00	290.00
123002	4AG, 4AB	Earless	348.00	290.00
125001	5AG, 5AB	Ear	750.00	625.00
125002	5AG, 5AB	Earless	750.00	625.00

P.C. BOARD FUSE CLIPS FOR ¼" DIAMETER FUSES

Spring brass clips unless otherwise noted.

L.F. No.	Finish	Style	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
102071	Tin plated	Ear	$ 88.00	$ 73.00
102074	Tin plated	Earless	88.00	73.00
122083*	Silver plated	Ear	252.00	210.00
122088*	Tin plated	Ear	210.00	175.00
122087*	Silver plated	Earless	252.00	210.00

*Beryllium copper.

BOWED TAB P.C. BOARD CLIPS FOR ¼" DIAMETER FUSES

Spring brass.

102078	Tin plated	Earless	$108.00	$90.00
102079	Tin plated	Ear	108.00	90.00

P.C. BOARD CLIPS FOR 5 mm DIAMETER FUSES

Spring brass.

100054	Silver plated	Ear	$138.00	$115.00
100056	Tin plated	Ear	108.00	90.00

LOW PROFILE P.C. BOARD CLIPS FOR ¼" DIAMETER FUSES

L.F. No.	Material	Finish	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
122090	Beryllium copper	Silver plated	$198.00	$165.00
102080	Spring brass	Tin plated	96.00	80.00

BAKELITE® UNIVERSAL IN-LINE FUSEHOLDER

(See photo next page.)

Comes with 15" wire loop and three different length springs for use with fuse sizes SFE 7½, 9, 14 and 20 and all 3AG fuses. (Fuses not included with holder.)
L.F. No. 150145—Net per 1000; Lots of 1–99.....**$1032.00**; 100–499....**$860.00**

BAKELITE IN-LINE FUSEHOLDERS ASSEMBLED WITH FUSE AND 19" LEAD

L.F. No.	Fuse	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
155004A	SFE 4, 1AG	$1068.00	$890.00
155006A	SFE 6	1068.00	890.00
15507.5A	SFE 7½	1068.00	890.00
155009A	SFE 9, 7AG	1068.00	890.00
155014A	SFE 14	1068.00	890.00
155020A	SFE 20, 3AG	1068.00	890.00

®Bakelite Corp.

NYLON UNIVERSAL IN-LINE FUSEHOLDERS

(See photo next page.)

Low-cost holder with "twist-lock". Comes with 8" lead and two springs to accommodate any ¼" diameter fuse.
L.F. No. 155100—Net per 1000; Lots of 1–99.....**$756.00**; 100–499....**$630.00**

NYLON IN-LINE FUSEHOLDERS ASSEMBLED WITH FUSE AND 19" LEAD

L.F. No.	Fuse	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
155104A	SFE 4	$960.00	$800.00
155106A	SFE 6	960.00	800.00
15517.5A	SFE 7½	960.00	800.00
155109A	SFE 9	960.00	800.00
155114A	SFE 14	960.00	800.00
155120A	SFE 20	960.00	800.00

MICROFUSE FUSEHOLDERS

L.F. No.	Type	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
281001	Chassis mount	$ 654.00	$ 545.00
28100S	P.C. board	636.00	530.00
281006A	Front panel	1782.00	1485.00
281007	P.C. board	768.00	640.00
282001A	Front panel	4338.00	3615.00
282002A	Rear panel	4338.00	3615.00
282007	RF shielded	7044.00	5870.00
282008	RF shielded	7044.00	5870.00

MICROFUSE INDICATING FUSEHOLDERS

L.F. No.	Voltage Range	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
284004A	2½—7 V	$5298.00	$4415.00
284005A	7—16 V	5298.00	4415.00
284006A	16—32 V	5298.00	4415.00
284003A	100—125 V	4080.00	3400.00

MICROFUSE INDICATING HOLDERS—RF SHIELDED

284121	2½—7 V	$53148.00	$44290.00
284122	7—16 V	53148.00	44290.00
284107	12—22 V	53148.00	44290.00
284108	23—33 V	53148.00	44290.00
284109	34—45 V	53148.00	44290.00
284110	46—60 V	53148.00	44290.00
294111	61—80 V	53148.00	44290.00
284112	81—90 V	33762.00	28135.00
284113	91—125 V	33762.00	28135.00

3AG PANEL FUSEHOLDERS

All holders include hardware.

L.F. No.	Type	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
340255	RF shld'd (FHN26G2)	$12186.00	$10155.00
340256	RF shld'd (FHN20G)	12186.00	10155.00
341001A*	Screw	1464.00	1220.00
342001A*	Finger grip	1464.00	1220.00
342006	Watertight	5310.00	4425.00

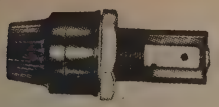
***UL Recognized. Certified by CSA 1 amps to 250 volts.**

3AG MINIATURE FUSEHOLDERS

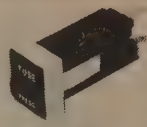
Extend only 1" behind panel. All holder include hardware. Rated at 20 amps t 250 volts. **UL Recognized and CSA certi fied.**

342004A	Fluted knob, right angle term	$1032.00	$860.00
342014A	Fluted knob, straight term.	1032.00	860.00
342022A	Knurled knob, right angle term.	1032.00	860.00
342012A	Knurled knob, straight term.	1032.00	860.00

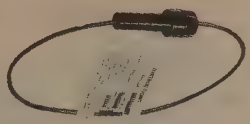
For dripproof applications, order par number with sufix **PA**, for example **342004PA.**



3AG Miniature Quick-connect Fuseholder



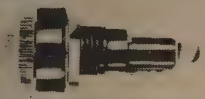
3AG Low Profile Fuseholder



Bakelite In-Line Fuseholder



Nylon In-Line Fuseholder



3AG Indicating Fuseholder

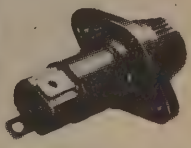


3AG Shock-Safe Fuseholder (Hardware Included)



3AG Indicating Low Profile





No. 571007 Fuseholder for 13/32" Diameter Fuses

3AG QUICK-CONNECT FUSEHOLDERS WITH 3/16" TERMINALS

dentical to 3AG Miniature Fuseholders n the previous page, but with Q.C. terminals. **Rated at 20 amps to 250 volts. UL Recognized and Certified by CSA.** All olders include hardware.

L.F. No.	Type
342028A	Fluted knob, right angle terminal
342038A	Fluted knob, straight terminals
342048A	Knurled knob, right angle terminals
342058A	Knurled knob, straight terminals

Net per 1000; Lots of 1–99 ..... **$1218.00**; 00–499 ..... **$1015.00**

lote: For fuseholders with ¼" Q.C. terminals, use 342 800 Series. Example: 42828A.

3AG INDICATING FUSEHOLDERS 344(000) SERIES

For visual indication of a blown fuse. Incandescent or neon lamps. Supplied with esistor and hardware. **Rated at 20 amps o 250 volts. Certified by CSA.**

L.F. No.	Voltage	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
344006A	2½–7 V	$7314.00	$6095.00
344012A	7–16 V	7314.00	6095.00
344024A	16–32 V	7314.00	6095.00
344125A*	100–125 V	4500.00	3750.00
344250A*	200–250 V	4500.00	3750.00

*UL Recognized.

3AG INDICATING FUSEHOLDERS 344(000) SERIES

Same as 344(000) Series but with different ens style.

344401A	2½–7 V	$7314.00	$6095.00
344402A	7–16 V	7314.00	6095.00
344403A	16–32 V	7314.00	6095.00
344404A	100–125 V	4500.00	3750.00
344405A*	200–250 V	4500.00	3750.00

*UL Recognized.

3AG "SHOCK SAFE" FUSEHOLDERS

Designed to meet standards set by the nternational Electrotechnical Commision. Used in equipment designed for sale n the European market. Absolute protecion against electrical shock. **Rated at 20 mps to 300 volts. UL Recognized. Certified by CSA.** Hardware included.

345001A	Right-angle terminals	$1379.00	$1108.00
345002A	Straight terminals	1379.00	1108.00
345400	Adapter for 5 x 20 mm fuses	978.00	815.00

3AG LOW PROFILE FUSEHOLDERS

Square cap fuseholder snaps into chassis, eliminating need for mounting hardware. The cap snaps open for quick and easy fuse insertion and removal. Aesthetically styled to complement modern instrument panels. **UL Recognized. Certified by CSA. Rated at 15 amps to 250 volts.** Order body and cap assemblies separately.

LOW PROFILE BODY ASSEMBLIES

L.F. No.*	Bezel Color	Net Each, Lots of 1-99	Net Each, Lots of 100-499
348610	Red	$1110.00	$925.00
348620	Green	1110.00	925.00
348630	Yellow	1110.00	925.00
348640	Blue	1110.00	925.00
348650	White	1110.00	925.00
348670	Black	1110.00	925.00
348690	Gray	1110.00	925.00

*For ¼" Q.C. terminals, change the **6** to **8**; example, **348810.**

LOW PROFILE CAPS

L.F. No.	Color	Net Each, Lots of 1-99	Net Each, Lots of 100-499
348001	Red	$294.00	$245.00
348002	Green	294.00	245.00
348003	Yellow	294.00	245.00
348004	Blue	294.00	245.00
348005	White	294.00	245.00
348007	Black	294.00	245.00
348009	Gray	294.00	245.00

INDICATING LOW PROFILE FUSEHOLDERS

Similar to above, except holders are supplied with an indicating lamp that lights when the fuse blows. Standard body and bezel are black. Other bezel colors available to special order. Rated at 15 amps to maximum lamp voltage. *To order with ¼" Q.C. terminals, change the **6** to **8**; example, **344801.**

L.F. No.*	Lamp Volts	Lamp mamps	Resistor	Lens Color
INCANDESCENT				
344601	6	40	No	Amber
344602	14	80	No	Amber
344603	28	40	No	Amber

Net per 1000; Lots of 1–99 ..... **$4668.00**; 100–499 ..... **$3890.00**

NEON				
344604	120	1.2	Yes	Clear
344605	240	.3	Yes	Clear

Net per 1000; Lots of 1–99 ..... **$3492.00**; 100–499 ..... **$2910.00**

3AG PANEL FUSEHOLDERS

Similar to the 3AG Panel Fuseholders (No. 341001A and 342001A) shown on preceding page, but designed for use with 8AG fuses. **Rated at 15 amps to 250 volts.** Hardware included. **UL Recognized and CSA Certified.**

L.F. No.	Type	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
371001A	Screw	$1854.00	$1545.00
372001A	Finger	1854.00	1545.00

No. 571007 PANEL FUSEHOLDER FOR 13/32" DIAMETER FUSES

Versatile fuseholder designed for use with 13/32" diameter fuses with lengths between 1 3/16" and 1½", including the popular 5AG and 5AB types. **Rated at 30 amps up to 600 volts.** ¼" Q.C./solder terminals. **UL Recognized. CSA Certified.**

Other features include:

- Minimum rear panel projection and reduced overall length.
- One-piece knob insert and one-piece side terminal for improved electrical performance.
- Recessed side terminal for additional shock-safe characteristics.
- Non-movable bottom terminal to eliminate circuit wiring flexing and permit easier fuse installation.
- ¼" spacing between mounting flange and terminals to accommodate even the thickest panels.
- Engraved, ink-filled knob markings for clear, permanent identification.
- **Watertight version—#571007P.**

#571007—
Net per 1000; Lots of 1–99 ..... **$2178.00**; 100–499 ..... **$1815.00**

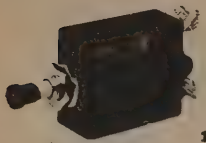
#571007P—
Net per 1000; Lots of 1–99 ..... **$2250.00**; 100–499 ..... **$1875.00**

5 x 20 MM FUSEHOLDERS

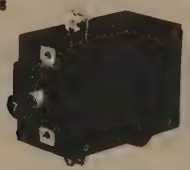
Panel fuseholders with V.D.E. Approval up to 6.3 amperes, 250 volts, for use with 5 x 20 mm fuses. Holders have solder terminals. Maximum panel thickness: 3/16".

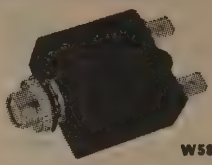
L.F. No.	Type	Net per 1000, Lots of 1-99	Net per 1000, Lots of 100-499
345401	Bayonet style knob	$2910.00	$2425.00
345402	Finger grip screw type knob	2376.00	1980.00

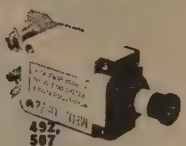
THERMAL CIRCUIT BREAKERS

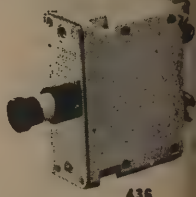

109, 110, 842, 449, 498


112, 113, 548


114


W58XB


492, 507


436

MODELS 109, 110, 449 AND 498

Models 109 and 110 thermal circuit breakers feature a white band on the body of the reset button which becomes visible upon breaker trip. Maximum operating voltages are 50 VDC and 250 VAC (to 400 Hz). Interrupt capacity for Model 109 is 1000 amps at 125 VAC or 2000 amps at 50 VDC; 2000 amps at 250 VAC or 5000 amps at 32 VDC for Models 110, 449 and 498. Use #8-32 screw terminals and mount with one ⅜-24 dress nut. Model 109 has screw terminals situated at 90° to each other. Model 110 has screw terminals situated parallel to each other. Model 449 is the same as Model 110 except rating is stamped 180° to that of Model 110. Model 498 is the same as Model 449 except has .500″ long bushing. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Model 109—Net Each..... $ 8.40
Model 110—Net Each..... 9.25
Model 449—Net Each..... 9.10
Model 498—Net Each..... 10.85

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
109-205-101	5	109-250-101	50	449-210-101	10
109-507-101	7.5	109-260-101	60	449-215-101	15
109-210-101	10	110-205-101	5	449-220-101	20
109-215-101	15	110-507-101	7.5	498-205-101	5
109-220-101	20	110-210-101	10	498-507-101	7.5
109-225-101	25	110-215-101	15	498-210-101	10
109-230-101	30	110-220-101	20	498-215-101	15
109-235-101	35	449-205-101	5	498-220-101	20
109-240-101	40	449-507-101	7.5		

MODEL 842

Model 842 thermal circuit breaker insures fast trip by employing a heater wire in close proximity to the thermal contact arm. Heat generated by overload currents flowing through the wire quickly activates the thermal contact and opens the circuit. Maximum operating voltages are 32 VDC and 250 VAC (to 400 Hz). Interruption capacity is over 1000% of current rating. Has #8-32 screw terminals and mounts with a single ¾-24 dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Model 842—Net Each..... $15.35

P & B Model	Rating, Amps	P & B Model	Rating, Amps
842-201-101	1	842-203-101	3
842-202-101	2	842-204-101	4

MODELS 112, 113 AND 548

Models 112, 113 and 548 thermal circuit breakers feature toggle trip. Model 112 has a plain steel toggle with rating marked on the end. Model 113 has a chrome-plated toggle with rating marked on the end. Model 548 has a silver toggle with no rate marking. Maximum operating voltages are 50 VDC and 250 VAC (to 400 Hz). Interrupt capacity for Model 112 is 1000 amps at 125 VAC or 2000 amps at 50 VDC; 3000 amps at 250 VAC or 5000 amps at 32 VDC for Models 113 and 548. Use #8-32 screw terminals and mount with a single dress nut. Size, .690″ w. x 1.600″ d. x 1.375″ h. Weight, less than 2 oz.

Model 112—Net Each..... $10.05
Model 113—Net Each..... 14.45
Model 548—Net Each..... 12.05

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
112-205-101	5	112-230-101	30	113-210-101	10
112-507-101	7.5	112-235-101	35	113-215-101	15
112-210-101	10	112-240-101	40	113-220-101	20
112-215-101	15	112-250-101	50	548-205-107	5
112-220-101	20	113-205-101	5	548-210-107	10
112-225-101	25	113-507-101	7.5		

MODEL 114

Model 114 thermal circuit breaker features auxiliary SPDT switch electrically isolated but mechanically connected to the breaker circuit. SPDT contacts rated 3 amps at 125 VAC or 50 VDC. Maximum operating voltages are 32 VDC and 240 VAC (to 400 Hz). Interruption capacity is over 200 amps at 240 VAC and 1000 amps at 32 VDC. Mounts with two #6-32 panel-mount screws. Termination of breaker contacts is to two #6-32 screw terminals; of the auxiliary switch, to three #53 taper receptacles. Size, .930″ w. x 1.875″ d. x 1.344″ h. Weight, less than 3 oz. UL Recognized.

Model 114—Net Each..... $37.95

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
114-201-101	1	114-206-101	6	114-215-101	15
114-202-101	2	114-207-101	7	114-220-101	20
114-203-101	3	114-209-101	9	114-225-101	25
114-205-101	5	114-210-101	10		

SERIES W58

Thermal circuit breakers feature recessed reset button which cannot be manually pulled out to disconnect the circuit. The button has a red band around it for visible trip indication. Maximum voltage ratings are 250 VAC and 50 VDC. Interruption capacity: 1 to 4 amp models, 200 amps; 5 to 35 amp models, 1000 amps. Quick-connect terminals on Models W58XB; #6-32 terminals on Models W58XC. Mounting is with knurled thumb on bushing. Size, .660″ w. x 1.375″ d. x 1.375″ h. Weight, less than 1.5 ozs. Models from 1 to 20 amps are UL Recognized under File E39205 and certified under CSA File 30671.

Model W58XB, 1 to 4 amps—Net Each..... $4.25
Model W58XB, 5 to 35 amps—Net Each..... 2.74
Model W58XC, 1 to 4 amps—Net Each..... 6.13
Model W58XC, 5 to 35 amps—Net Each..... 4.62

P & B Model W58-	Rating, Amps	P & B Model W58-	Rating, Amps	P & B Model W58-	Rating, Amps
XB1A4A-1	1	XB1A4A-15	15	XC4C12A-6	6
XB1A4A-2	2	XB1A4A-20	20	XC4C12A-7	7
XB1A4A-3	3	XB1A4A-25	25	XC4C12A-8	8
XB1A4A-4	4	XB1A4A-30	30	XC4C12A-10	10
XB1A4A-5	5	XB1A4A-35	35	XC4C12A-12	12
XB1A4A-6	6	XC4C12A-1	1	XC4C12A-15	15
XB1A4A-7	7	XC4C12A-2	2	XC4C12A-20	20
XB1A4A-8	8	XC4C12A-3	3	XC4C12A-25	25
XB1A4A-10	10	XC4C12A-4	4	XC4C12A-30	30
XB1A4A-12	12	XC4C12A-5	5	XC4C12A-35	35

MODEL 436

Model 436 thermal circuit breaker has a special magnet which assists during millisecond tripping of heavy overloads. Reset button has white band around it for visible trip indication. Maximum voltage ratings are 32 VDC and 115 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 115 VAC, and 6000 amps at 32 VDC. Termination to #8-32 screw terminals; mounting is with #6-32 screws. Size, .750″ w. x 1.66″ d. x 2.189″ h. Weight, less than 3 oz.

Model 436—Net Each..... $28.75

P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
436-205-101	5	436-220-101	20	436-240-101	40
436-507-101	7.5	436-225-101	25	436-250-101	50
436-210-101	10	436-230-101	30		
436-215-101	15	436-235-101	35		

MODELS 492 AND 507

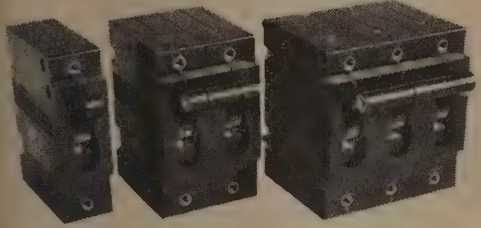
Models 492 and 507 thermal circuit breakers have a white band around the base of the reset button which becomes visible upon breaker trip. Model 492 has a glass melamine barrier on one side of its housing. Maximum operating voltages are 32 VDC and 115 VAC (to 400 Hz). Will safely interrupt over 3500 amps at 115 VAC and 6000 amps at 32 VDC. Size, .750″ w. x 1.490″ d. x 1.094″ h. Weight, 2 oz.

Model 492—Net Each..... $23.35
Model 507—Net Each..... 20.25

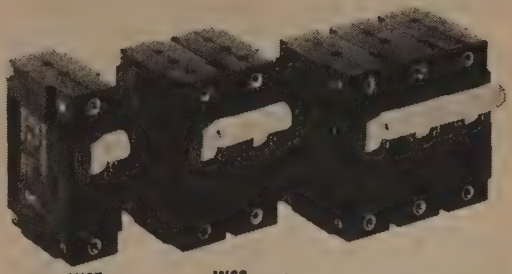
P & B Model	Rating, Amps	P & B Model	Rating, Amps	P & B Model	Rating, Amps
492-210-102	10	492-235-102	35	507-225-101	25
492-215-102	15	507-210-101	10	507-230-101	30
492-220-102	20	507-215-101	15	507-235-101	35
492-225-102	25	507-220-101	20	507-240-101	40

SEE NEXT PAGE FOR TRIP TIME VALUES

PRICES SHOWN ARE FOR REFERENCE ONLY



W91 W92 W93



W67 W68 W69

MAGNETIC/HYDRAULIC CIRCUIT BREAKERS SERIES W67, W68, W69, W91, W92, W93

Magnetic-hydraulic circuit breakers designed to pass safe surge currents and momentary overloads but to trip on dangerous overloads. Trip times range from instantaneous on loads of approximately 800% of rating and higher to .16 second or more at 200% of load. Breakers may trip between values greater than 100% and less than 125% of rated load, but must trip at 125% of rated load and above. All models feature wipe on make and break and have a trip-free mechanism which allows the contacts to open even if manually held in the reset position. On 2- and 3-pole models, an overload in any circuit will open all circuits. All models are UL recognized as circuit protectors, File 39205, and CSA recognized as appliance component protectors, File 30671. Models W91, W92 and W93 breakers mount with #6-32 screws and have #10-32 terminal studs. **Size:** W91, .750″ w. x 1.844″ d. x 2.500″ h.; W92, 1.500″ w. x 1.844″ d. x 2.500″ h.; W93, 2.250″ w. x 1.844″ d. x 2.500″ h. Models W67, W68 and W69 breakers offer an auxiliary SPDT switch electrically isolated, rated 5 amps at 125 VAC or 1 amp at 50 VDC, and has solder terminals. **Size:** W67, .750″ w. x 1.500″ d. x 2.000″ h.; W68, 1.500″ sq. x 2.000″ h.; W69, 2.250″ w. x 1.500″ d. x 2.000″ h. **Maximum Operating Voltages:** Models from 1 to 30 amps, 250 VAC, 50/60 Hz; models from 1 to 50 amps, 65 VDC. **Auxiliary Switch Rating:** SPDT common, 5 amps at 125 VAC, 1 amp at 50 VDC. **Interrupt Capacity:** 65 VDC, 1000 amps; 250 VAC, 60 Hz, 1000 amps.

W 91 X1 1 2 15

(A) (B) (C) (D) (E) (F)

(A) Circuit breaker designator
W

(B) Series number
91—single pole
92—double pole
93—triple pole

(C) Circuit function
X1—Series trip

(D) Voltage
1—AC
5—DC

(E) Trip curve
0—Instantaneous
2—Standard time delay
3—Short time delay

(F) Standard ampere rating*

1	5	15	30
2	7	20	40§
3	10	25	50§

P & B Model	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500-Up
W91	$16.10	$10.47	$ 9.50	$ 8.53	$ 7.57	$ 7.08
W92	38.78	25.16	22.83	20.51	18.19	17.03
W93	68.65	39.42	35.78	32.14	28.51	26.69

*Not all ratings available in each trip curve. §Not UL or CSA in AC models.

Curve	Trip Time in Seconds at % Overload				
	200%	400%	600%	800%	1000%
0*	.03‡	.015‡	.012‡	.012‡	.....
2 AC†	2.2–20	.3–2	.05–.75	.007–.15	.005–.04
2 DC	.6–8	.15–1.5	.03–.5	.004–.05	.004–.025
3 AC†	.15–1.5	.035–.25	.01–.15	.003–.08	.003–.04
3 DC	.16–1.5	.035–.25	.012–.13	.004–.05	.003–.015

*Ratings for 50/60 Hz and DC. †Ratings for 50/60 Hz. ‡Maximum value.

ORDERING INFORMATION

W 67 A2Q 1 2 20

(A) (B) (C) (D) (E) (F)

(A) Circuit breaker designator
W

(B) Series number
67—single pole
68—double pole
69—triple pole

(C) Circuit function
A2Q—series trip with auxiliary switch
X2Q—series trip

(D) Voltage
1—AC
6—DC

(E) Trip curve
0—Instantaneous
2—Standard time delay
3—Short time delay

(F) Standard ampere rating*

0.5	3	10	25
1	5	15	30
2	7	20	

P & B Model	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500-Up
W67A ½A	$17.45	$11.34	$10.30	$ 9.25	$ 8.20	$ 7.68
W67A Others	17.45	11.34	10.30	9.25	8.20	7.68
W67X ½A	15.50	10.08	9.15	8.22	7.29	6.82
W67X Others	12.95	8.42	7.64	6.86	6.09	5.70
W68X ¼A	30.85	20.05	18.20	16.35	14.50	13.57
W68X Others	30.85	20.05	18.20	16.35	14.50	13.57
W69X ½A	48.55	31.56	28.64	25.73	22.82	21.36
W69X Others	48.55	31.56	28.64	25.73	22.82	21.36

*Not all ratings available in each trip curve.

TRIP TIME vs. PERCENT OF LOAD

P & B Model	Trip Time in Sec. at 200% of Load	P & B Model	Trip Time in Sec. at 200% of Load
109-	8–20	436-	15–55
110-	8–20	449-	8–20
112-	8–20	492-	15–55
113-	8–20	498-	8–20
114-	13–30		

P & B Model	Trip Time in Sec. at 200% of Load	P & B Model	Trip Time in Sec. at 200% of Load
507-	15–55	W58XB, 5–35 A	6–30
548-	8–20	W58XC, 1–4 A	10–45
842-	11–42	W58XC, 5–35 A	6–30
W58XB, 1–4 A	10–45		

PRICES SHOWN ARE FOR REFERENCE ONLY

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.
ASK ABOUT NEW OR UNLISTED ITEMS.

Mil-Spec and UL Hook-Up Wire

SPECIFICATION MIL-W-16878D HOOK-UP WIRE

TYPE B UNCOVERED PLASTIC

Single conductor stranded tinned copper, .010″ polyvinylchloride insulation. Rated 600 volts. Temp., −55° C to +105° C.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Net per Spool 1000′	Net per Spool 100′
1850	B-32	32	7/40	.028″	1-19	$38.76	$ 6.66
1851	B-30	30	7/38	.032″	1-19	31.81	5.48
1852	B-28	28	7/36	.034″	1-19	28.06	5.21
1853	B-26	26	7/34	.038″	1-19	31.66	5.37
1854	B-24	24	7/32	.043″	1-19	28.50	5.31
1854/19	B-24	24	19/36	.043″	1-19	35.65	6.86
1855	B-22	22	7/30	.050″	1-19	31.03	6.15
1855/19	B-22	22	19/34	.050″	1-19	43.98	8.48
1856	B-20	20	7/28	.058″	1-19	38.55	7.32
1856/19	B-20	20	19/32	.058″	1-19	43.83	7.43
1857	B-18	18	7/26	.068″	1-19	47.67	7.61
1857/19	B-18	18	19/30	.068″	1-19	59.19	9.65
1858/19	B-16	16	19/29	.077″	1-19	65.02	9.94
1859/19	B-14	14	19/27	.091″	1-19	92.58	22.35

TYPE B NYLON JACKET

Same as above, but clear nylon jacket overall; 115° C.

1863	B-26	26	7/34	.044″	1-19	$ 42.15	$ 7.46
1864	B-24	24	7/32	.049″	1-19	40.39	7.06
1864/19	B-24	24	19/36	.049″	1-19	48.19	7.90
1865	B-22	22	7/30	.056″	1-19	45.58	7.74
1865/19	B-22	22	19/34	.056″	1-19	55.08	8.90
1866	B-20	20	7/28	.064″	1-19	51.37	8.10
1866/19	B-20	20	19/32	.064″	1-19	59.52	9.46
1867	B-18	18	7/26	.074″	1-19	63.85	10.26
1867/19	B-18	18	19/30	.074″	1-19	75.88	11.79
1868/19	B-16	16	19/29	.085″	1-19	80.64	10.72
1869/19	B-14	14	19/27	.099″	1-19	118.47	18.67

TYPE C UNCOVERED PLASTIC

Single conductor stranded tinned copper; .016″ polyvinylchloride insulation. Rated 1000 volts. Temp., −55° C to +105° C.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Net per Spool 1000′	Net per Spool 100′
1830	C-24	24	7/32	.058″	1-19	$ 44.20	$ 9.10
1831	C-22	22	7/30	.064″	1-19	49.69	10.01
1832	C-20	20	7/28	.072″	1-19	60.73	11.54
1833	C-18	18	7/26	.082″	1-19	87.90	15.32
1834	C-16	16	19/29	.091″	1, 11-19	116.35	20.24
1835	C-14	14	19/27	.015″	1, 11-19	179.43	30.07
1836	C-12	12	19/25	.124″	1, 11-19	281.80	44.35

TYPE D UNCOVERED PLASTIC

Same as Type D except without nylon jacket; 105° C max.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
1870	D-24	24	7/32	.082″	1-3	$ 27.33	$ 5.53
1871	D-22	22	7/30	.088″	1-3	65.26	12.21
1872	D-20	20	7/28	.096″	1-3	79.02	14.49
1873	D-18	18	7/26	.106″	1-3	97.75	16.16
1874	D-16	16	19/29	.115″	1-3	144.79	22.70
1875	D-14	14	19/27	.129″	1-3	191.73	28.25
1876	D-12	12	19/25	.158″	1-3	297.72	43.04
1877	D-10	10	37/26	.185″	1	449.62	60.73
1878	D-8	8	133/29	.247″	1	874.69	100.00
1879	D-6	6	133/27	.290″	1	1263.06	152.73

TYPE E TEFLON® STRANDED-CONDUCTOR WIRE

Stranded silver plated copper conductor; extruded TFE Teflon insulation. Rated 600 V. Temp. −65° C to +200° C.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Spool of 100′▲
5851	E-30	30	7/38	.028″	1-19	$ 17.82
5852	E-28	28	7/36	.031″	1-19	17.75
5853	E-26	26	7/34	.035″	1-19	18.71
5854	E-24	24	19/36	.040″	1-19	28.92
5854/7	E-24	24	7/32	.039″	1-19	21.89
5855	E-22	22	19/34	.046″	1-19	32.98
5855/7	E-22	22	7/30	.045″	1-19	26.17
5856	E-20	20	19/32	.054″	1-19	41.20
5856/7	E-20	20	7/28	.053″	1-19	34.87
5857	E-18	18	19/30	.064″	1-19	54.76
5858	E-16	16	19/29	.073″	1-19	67.21
5859§	E-14	14	19/27	.094″	1-6, 11-19	93.26
5859/12§	E-12	12	19/25	.113″	1, 11-19	102.16
5859/10§	E-10	10	37/26	.134″	1, 11-19	152.95

TYPE EE TEFLON® WIRE

Same as Type E, but .014″ thick extruded TFE Teflon insulation. Rated 1000 volts. Temperature, −65° C to +200° C.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Spool of 100′▲
2874	EE-24	24	19/36	.055″	1-19	$ 42.99
2875	EE-22	22	19/34	.062″	1-19	50.09
2876	EE-20	20	19/32	.070″	1-19	64.70
2877	EE-18	18	19/30	.080″	1-19	75.24
2878	EE-16	16	19/29	.089″	1, 11-19	100.00
2879§	EE-14	14	19/27	.106″	1, 11-19	113.83
2879/12§	EE-12	12	19/25	.124″	1, 11-19	168.15
2879/10§	EE-10	10	37/26	.145″	1, 11-19	202.23
2879/8♯	EE-8	8	133/29	.210″	1	572.88

§Insul., .017″ thick. ♯Insul., .020″ thick. ▲Spool of 1000′ also avail.; prices on request.

SPECIFICATION MIL-W-76B PLASTIC HOOK-UP WIRE

TYPE MW (MEDIUM WALL) PLASTIC

Single conductor stranded or solid tinned copper, polyvinylchloride insulation .016″ th. Rated 1000 volts. Temp., −40° C to +80° C.

STRANDED

Alpha No.	Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Net per Spool 1000′	Net per Spool 100′
1550	24(7)U	24	7/32	.059″	1-27	$ 28.60	$ 5.24
1551	22(7)U	22	7/30	.064″	1-27	32.44	5.68
1553	20(10)U	20	10/30	.073″	1-27	38.10	6.84
1555	18(16)U	18	16/30	.084″	1-27	48.70	7.86
1557	16(26)U	16	26/30	.095″	1-19	72.06	11.41
1559	14(41)U	14	41/30	.110″	1-19	109.15	15.67
1560	12(65)U	12	65/30	.125″	1-19	162.03	24.41

SOLID

Alpha No.	Type MW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Net per Spool 1000′	Net per Spool 100′
1561/24	24(1)U	24	1	.055″	1-19	$22.65	$4.99
1561	22(1)U	22	1	.060″	1-19	25.24	4.84
1563	20(1)U	20	1	.066″	1-19	31.65	5.75
1565	18(1)U	18	1	.074″	1-19	44.80	7.66

UL HOOK-UP WIRE

The special, custom or prototype, UL Listed wire you need—in ready to use form—from one foot to production requirements, produced and delivered to you fast. Stranded tinned copper, color coded polyvinylchloride insulation. Resistant to acids, alkalis, oil, flame, moisture and fungus.

300 VOLTS, 80° C, UL STYLE 1007

Temperature rating, −10° C to +80° C. Voltage rating, 300 volts. Nom. wall thickness, .016″. CSA Style TR-64, ¼″ nom. wall thickness.

Alpha No.	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
3050	24	7/32	.057″	1-19	$27.04	$ 5.21
3051	22	7/30	.065″	1-19	32.10	5.90
3053	20	10/30	.071″	1-19	38.76	7.12
3055	18	16/30	.080″	1-19	42.96	7.44
3057	16	26/30	.095″	1-19	64.75	10.39

600 VOLTS, 105° C, UL STYLE 1015

Temperature rating, −10° C to +105° C. Voltage rating, 600 volts. Nom. wall thickness, .016″. CSA Style TEW-105, ½″ nom. wall thickness.

3071	22	7/30	.095″	1-10	$ 34.60	$ 5.62
3073	20	10/30	.102″	1-10	44.98	7.35
3075	18	16/30	.112″	1-10	52.12	8.83
3077	16	26/30	.125″	1-10	78.33	11.23
3079	14	41/30	.142″	1-10	104.71	15.58

SEMI-RIGID PVC, 300 VOLTS, 80° C, UL STYLE 1061

Stranded tinned copper, color coded semi-rigid polyvinylchloride insulation. Temperature rating, −10° C to +80° C. Voltage rating, 300 volts in business machine or electronic computers only. Nom. wall thickness, .009″. Applications include internal wiring of computers, electric bookkeeping, accounting machines, and other office and control equipment.

3250	24	7/32	.042″	1-10	$25.30	$3.88
3251	22	7/30	.048″	1-10	31.87	4.91
3252	20	7/28	.056″	1-10	46.36	6.93

KYNAR® WIRE, 125° C, 300 VOLTS FOR WIRE WRAP CONNECTIONS

Solid, silver-plated, oxygen-free high conductivity (OFHC) copper conductor, extruded Kynar (Polyvinylidene fluoride) insulation. Extremely tough, high cut-through resistance. Self-extinguishing, will not support combustion. Excellent ultra-violet and weathering resistance. Used in automatic wire wrapping equipment in computer and related industries. Temp. rating, through 125° C continuous (UL rated at 105° C). Nominal wall thickness, .005″. Cut lengths available, write or phone for information.

Alpha No.	Conductor Size	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
5951	30	.020″	1-10	$ 92.77	....
5952	28	.023″	1-10	107.37	....
5953	26	.026″	1, 3–6, 9	109.81	....
5954	24	.030″	1, 3–6	135.76	....

*‡STOCK COLORS

*Specify color. ‡Prices shown are for solid colors only. Following striping charges apply for either one, two or three spiral tracers per item in any standard put-up. Plastic and nylon jacketed wire, $1.50 per 1000′; Teflon® wire, $11.25 per 1000′. Other tracer colors available at extra cost. Write for information.

No.	Color	No.	Color	No.	Color
1	White	10	Violet	19	White/Violet
2	Black	11	White/Black	20	White/Black/Red
3	Red	12	White/Red	21	White/Black/Green
4	Green	13	White/Green	22	White/Black/Yellow
5	Yellow	14	White/Yellow	23	White/Black/Blue
6	Lt. Blue	15	White/Blue	24	White/Black/Brown
7	Brown	16	White/Brown	25	White/Black/Orange
8	Orange	17	White/Orange	26	White/Black/Gray
9	Gray	18	White/Gray	27	White/Black/Violet

®DuPont trademark.

SPECIFICATION MIL-W-16878D HOOK-UP WIRE

RX-7000 IRRADIATED-HEAT RESISTANT HOOK-UP WIRE

Newly developed hook-up wire with insulation made of irradiated polyvinylchloride compound (PVC) provides insulation far superior to ordinary PVC. Withstands higher temperature, and even in direct contact with a soldering iron will not shrink back, melt, blow or deform. Ideal where high reliability is essential, particularly in the wiring of tight, high density systems, appliances, computer wiring, business machines, instrumentation and control systems. Rated 600 volts, Type B; 1000 volts, Type C. Temperature, +105° C.

MIL-W-16878D TYPE B STRANDED, +105° C, 600 VOLTS

Alpha No.	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
7053	26	7/34	.038″	1-19	$ 35.64	$ 6.06
7054	24	7/32	.043″	1-19	37.63	7.39
7054/19	24	19/36	.043″	1-19	43.29	8.03
7055	22	7/30	.050″	1-19	42.61	7.72
7055/19	22	19/34	.050″	1-19	49.45	8.04
7056	20	7/28	.058″	1-19	53.01	9.01
7056/19	20	19/32	.058″	1-19	52.65	8.75
7057	18	7/26	.068″	1-19	66.70	11.17
7057/19	18	19/30	.068″	1-19	88.78	12.90
7058/19	16	19/.0117	.077″	1-19	111.28	15.34

MIL-W-16878D TYPE C STRANDED, +105° C, 1000 VOLTS

7030	24	7/32	.058″	1-19	$ 41.73	$ 7.06
7031	22	7/30	.064″	1-19	52.09	8.41
7032	20	7/28	.072″	1-19	59.02	9.56
7033	18	7/26	.082″	1-19	71.37	11.88
7034	16	19/29	.091″	1-19	103.80	14.85
7035	14	19/27	.105″	1-19	158.95	21.75
7036	12	19/25	.124″	1-19	210.41	28.17

†‡See following page for colors.

TYPE ET EXTRUDED TEFLON® WIRE

Single conductor stranded, silver-plated copper; extruded TFE Teflon insulation, .006″ thick. Rated 250 volts. Temperature, −65° C to +200° C.

Alpha No.	MIL-W Type	Conductor Size	Conductor Strand	Nom. O.D.	Colors‡	Net per Spool 1000′	Net per Spool 100′
2840/7	ET-32	32	7/40	.021″	1-10	$ 97.08	$17.73
2841/7	ET-30	30	7/38	.024″	1-10	106.24	19.36
2842/7	ET-28	28	7/36	.027″	1-10	114.06	20.78
2842/19	ET-28	28	19/40	.027″	1-10	203.01	29.79
2843/7	ET-26	26	7/34	.031″	1-10	115.75	21.08
2843/19	ET-26	26	19/38	.032″	1-10	174.49	26.21
2844/7	ET-24	24	7/32	.036″	1-10	139.53	25.43
2844/19	ET-24	24	19/36	.037″	1-10	172.26	31.36
2845/7	ET-22	22	7/30	.042″	1-10	148.11	27.01
2845/19	ET-22	22	19/34	.044″	1-10	194.76	35.49
2841/1	.....	30†	Solid	.022″	1-10	104.13	17.38
2842/1	.....	28†	Solid	.025″	1-10	101.32	16.93
2843/1	.....	26†	Solid	.028″	1-10	106.98	17.38
2844/1	.....	24†	Solid	.032″	1-10	117.45	18.71

†Solid silver plated copper conductor.

TYPE HW (HEAVY WALL) PLASTIC

Single conductor stranded tinned copper; heavy wall polyvinylchloride insulation. Nominal insulation .032″ for 22-16 cond. sizes; .045″, all other sizes. Voltage rating, 2500 V 22-16 cond. sizes; 600 V, all other sizes. Temp., −40° C to +80° C.

Alpha No.	Type HW-C	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
1571	22(7)U	22	7/30	.092″	1-6	$ 47.89	$ 9.21
1573	20(10)U	20	10/30	.100″	1-6	60.69	11.54
1575	18(16)U	18	16/30	.112″	1-6	67.71	12.05
1577	16(26)U	16	26/30	.126″	1-3	83.94	14.25
1579	14(41)U	14	41/30	.170″	1-3	150.66	24.15
1651	12(65)U	13	65/30	.186″	1-3	227.05	33.31
1653	10(105)U	10	105/30	.210″	1-3	349.87	48.81
1655	8(133)U	8	133/29	.260″	1-3	822.78	100.00

TYPE B, PRE-BONDED, UNCOVERED PLASTIC

Each strand is double tinned and then heated to bond the strands together for easy stripping. Insulation per MIL-W-16878D, .010″ polyvinylchloride. Rated 600 volts. Temp., −55° C to +105° C.

3154	B-24	24	7/32	.044″	1-19	$43.30	$ 8.63
3155	B-22	22	7/30	.051″	1-19	51.30	9.81
3156	B-20	20	7/28	.059″	1-19	67.77	12.19
3157	B-18	18	7/26	.070″	1-19	96.30	16.22

TYPE E TEFLON® SOLID-CONDUCTOR WIRE

Single solid silver-plated copper conductor; extruded TFE Teflon insulation. Rated 600 V. Temp., −65° C to +200° C.

2853/1	E-26	26	Solid	.036″	1-10	$ 90.63	$15.60
2854/1	E-24	24	Solid	.040″	1-10	100.05	15.72
2855/1	E-22	22	Solid	.045″	1-10	135.57	21.68
2856/1	E-20	20	Solid	.052″	1-10	164.10	25.17
2857/1	E-18	18	Solid	.060″	1-10	214.08	31.32

RX-7000 IRRADIATED-HEAT RESISTANT HOOK-UP WIRE MIL-W-16878D

UL STYLES 1430, 1429

Newly developed hook-up wire with insulation made of irradiated polyvinylchloride compound (PVC) provides insulation far superior to ordinary PVC. Withstands higher temperature, and even in direct contact with a soldering iron will not shrink back, melt, blow or deform. Ideal where high reliability is essential, particularly in the wiring of tight, high density systems, appliances, computer wiring, business machines, instrumentation and control systems. Rated 300 volts.

UL STYLE 1430, 105° C, 300 VOLTS

Nom. wall thickness, .016″.

Alpha No.	Conductor Size	Conductor Strand	Nom. O.D.	Colors*	Net per Spool 1000′	Net per Spool 100′
7130	24	7/32	.056″	1-19	$ 49.30	$ 8.65
7131	22	7/30	.062″	1-19	59.77	10.12
7132	20	7/28	.070″	1-19	69.94	11.68
7133	18	7/26	.080″	1-19	82.06	14.20
7134	16	19/.0117	.091″	1-19	118.95	18.36

UL STYLE 1429, 150 VOLTS, SOLID AND STRANDED, 80° C

Nom. wall thickness, .010″.

7149	26	7/34	.038″	1-19	$ 41.16	$ 7.24
7150	24	7/32	.043″	1-19	42.21	8.61
7151	22	7/30	.050″	1-19	45.90	9.03
7153	20	7/28	.068″	1-19	57.04	10.57
7155	18	7/26	.068″	1-19	74.86	12.99
7157	16	19/.0117	.077″	1-19	120.46	18.47
7161	22	Solid	.045″	1-19	36.39	8.15
7161/24	24	Solid	.040″	1-19	33.88	7.66
7163	20	Solid	.054″	1-19	63.10	10.74

TEFZEL® COMPUTER WIRE, 150° C, 300 VOLTS

Rugged, flexible wire-wrap wire. Solid silver-plated OFHC copper conductor. Tefzel insulation (copolymer of ethylene and tetra fluourethylene. Low dielectric constant of 2.6. Rated non-burning or self-extinguishing. Temp. rating, −100° C to +150° C continuous. Nom. wall thickness, .005″. Cut lengths available, write or phone for information.

1805	30	.....	.019″	1–10	$226.53	$36.05
1806	28	.....	.023″	1–10	244.14	38.38
1807	26	.....	.026″	1–10	262.65	40.82
1808	24	.....	.029″	1–10	296.04	45.32

*COLOR CODE OF CONDUCTORS

No.	Color	No.	Color	No.	Color	No.	Color
1	White	6	Lt. Blue	11	Wht/Blk	16	Wht/Brn
2	Black	7	Brown	12	Wht/Red	17	Wht/Orng
3	Red	8	Orange	13	Wht/Grn	18	Wht/Gray
4	Green	9	Gray	14	Wht/Yel	19	Wht/ Violet
5	Yellow	10	Violet	15	Wht/Blue		

MIL-W-16878D IRRADIATED POLYOLEFIN HOOK-UP WIRE

UL STYLES 3265, 3266, 3271, 3272

Alpha No.	Conductor Size	Conductor Strand	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
UL STYLE 3265, 125° C, 150 V, CSA XLPE, 125° C, 150 V MIL-W-16878D, TYPE B, 105° C, 600 V					
7011	24	19/36	.047″	$ 78.21	$12.52
7012	22	19/34	.054″	106.95	17.14
7013	20	19/32	.062″	100.18	16.03
7014	18	19/30	.072″	130.29	20.86
7015	16	19/.0117″	.079″	161.34	25.83
UL STYLE 3266, 125° C, 300 V, CSA CL-1252, 125° C, 300 V MIL-W-16878D TYPE C, 105° C 1000 V					
7023	24	19/36	.057″	$ 82.90	$13.29
7024	22	19/34	.064″	93.39	14.96
7025	20	19/32	.072″	113.02	18.11
7026	18	19/30	.082″	144.09	23.08
7027	16	19/.0117″	.089″	177.00	28.36
UL STYLES 3271 & 3272, 125° C, 600 V, CSA CL-1251, 125° C, 600 V, MIL-W-16878D TYPE D, 105° C, 3000 V					
7044*	18	16/30	.108″	$167.41	$26.83
7045*	16	26/30	.122″	209.23	33.51
7046*	14	41/30	.139″	278.59	44.63
7047*	12	65/30	.153″	417.51	66.85
7048*	10	105/30	.192″	635.11	100.00

*Available black and white only; all others available in black, white, red, green and blue.

UL/CSA/OSHA Computer Cables

UNSHIELDED UL STYLE 2343 CABLE



Appliance wiring cable suitable for use in electronic computers and business machines to 80° C. Conductor is stranded, annealed, tinned copper; insulation is 0.009" thickness semi-rigid PVC to UL Style 1061, rated at 80° C, 300 V; tape wrap is 0.001" clear mylar; nylon rip cord; jacket is gray 80° C PVC thickness as listed, marked at one foot intervals. Cable has superior flame retardancy and excellent resistance to acids, oils, moisture, solvents and fungus. Cable passes FR-1 flame test.

24 AWG MULTICONDUCTOR (7/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5200	5	.063	.250	$100.00	$ 432.75	$ 708.57
5201	7	.063	.265	101.11	459.60	766.06
5202	12	.063	.320	139.71	634.90	1058.08
5203	15	.063	.340	189.88	863.22	1438.68
5204	19	.063	.360	205.77	935.59	1559.32
5205	27	.063	.410	275.17	1250.89	2084.82
5206	37	.063	.445	379.26	1723.84	2873.10
5207	48	.063	.495	476.76	2167.09	3611.85
5208	60	.063	.535	569.11	2587.03	4311.79

24 AWG TWISTED PAIRS (7/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5230	5	.063	.345	$144.75	$ 656.86	$1094.79
5231	7	.063	.355	154.65	702.99	1171.59
5232	12	.063	.445	222.79	1013.17	1688.53
5233	15	.063	.485	284.80	1294.78	2158.05
5234	19	.063	.505	323.52	1470.57	2451.00
5235	27	.063	.575	438.90	1995.24	3325.41
5236	37	.063	.640	588.48	2674.96	4458.28
5237	48	.063	.710	734.62	3339.18	5565.30
5238	60	.063	.760	938.14	4264.41	7107.40

22 AWG MULTICONDUCTOR (7/30)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5210	5	.063	.270	$101.23	$ 460.00	$ 766.69
5211	7	.063	.285	108.57	493.62	822.72
5212	12	.063	.345	152.95	695.22	1158.73
5213	15	.063	.370	205.24	932.97	1555.00
5214	19	.063	.390	225.69	1026.03	1710.07
5215	27	.063	.440	300.73	1367.20	2278.68
5216	37	.063	.490	415.08	1886.67	3144.51
5217	48	.063	.545	518.52	2357.07	3928.44
5218	60	.063	.580	643.29	2924.19	4876.11

22 AWG TWISTED PAIRS (7/30)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5240	5	.063	.370	$147.81	$ 671.97	$1119.93
5241	7	.063	.385	171.10	777.90	1296.58
5242	12	.063	.485	251.31	1142.32	1903.93
5243	15	.063	.535	330.33	1501.59	2502.64
5244	19	.063	.565	371.28	1687.65	2812.81
5245	27	.063	.645	492.34	2238.16	3730.32
5246	37	.063	.735	661.24	3005.71	5009.64
5247	48	.063	.815	854.58	3884.47	6474.22
5248	60	.080	.915	1057.56	4807.18	8011.96

20 AWG MULTICONDUCTOR (19/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5220	5	.063	.295	$114.84	$ 522.09	$ 870.10
5221	7	.063	.320	128.43	584.10	973.47
5222	12	.063	.390	186.37	847.18	1387.05
5223	15	.063	.415	246.15	1119.06	1865.19
5224	19	.063	.440	279.16	1268.94	2114.97
5225	27	.063	.510	371.28	1687.65	2812.81
5226	37	.063	.560	511.14	2323.48	3872.44
5227	48	.063	.630	646.47	2938.57	4897.60
5228	60	.063	.680	785.82	3571.81	5953.00

20 AWG TWISTED PAIRS (19/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5250	5	.063	.420	$176.25	$ 801.19	$1335.36
5251	7	.063	.435	212.05	964.00	1606.69
5252	12	.063	.555	317.83	1444.74	2407.92
5253	15	.063	.610	385.50	1752.30	2920.47
5254	19	.063	.650	482.10	2191.65	3652.75
5255	27	.063	.750	644.77	2930.82	4884.69
5256	37	.080	.890	885.84	4026.64	6711.10
5257	48	.080	.990	1116.12	5073.42	8455.68
5258	60	.080	1.065	1379.91	6272.55	10454.34

SHIELDED UL STYLE 2343 CABLE



Appliance wiring cable suitable for use in electronic computers and business machines to 80° C. Conductor is stranded, annealed, tinned copper; insulation is 0.009" thickness semi-rigid PVC to UL Style 1061, rated at 80° C, 300 V; tape wrap is 0.001" clear mylar; shield is braided, tinned copper (85–90% coverage); nylon rip cord; jacket is gray 80° C PVC thickness as listed, marked at one foot intervals. Cable has superior flame retardancy and excellent resistance to acids, oils, moisture, solvents and fungus. Passes FR-1 flame test. Also available with alum./mylar foil shield.

24 AWG SHIELDED MULTICONDUCTOR (7/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5300	5	.063	.275	$112.51	$ 511.72	$ 852.85
5301	7	.063	.290	123.90	563.40	939.00
5302	12	.063	.345	167.68	762.42	1270.72
5303	15	.063	.365	220.65	1002.75	1671.28
5304	19	.063	.380	239.37	1088.04	1813.47
5305	27	.063	.430	314.97	1431.78	2386.36
5306	37	.063	.470	428.19	1946.11	3243.58
5307	48	.063	.520	536.17	2437.17	4061.98
5308	60	.063	.555	634.51	2884.33	4807.18

24 AWG SHIELDED TWISTED PAIRS (7/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5330	5	.063	.365	$156.61	$ 711.96	$1186.62
5331	7	.063	.380	179.14	814.36	1357.24
5332	12	.063	.465	261.76	1189.84	1983.07
5333	15	.063	.510	325.54	1480.02	2466.70
5334	19	.063	.525	366.90	1667.74	2779.54
5335	27	.063	.595	488.10	2218.75	3697.93
5336	37	.063	.670	638.82	2903.91	4839.88
5337	48	.063	.740	789.03	3586.63	5977.72
5338	60	.063	.815	991.24	4505.76	7509.73

22 AWG SHIELDED MULTICONDUCTOR (7/30)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5310	5	.063	.290	$123.90	$ 563.40	$ 939.00
5311	7	.063	.310	134.19	609.93	1016.58
5312	12	.063	.380	184.23	837.34	1395.60
5313	15	.063	.390	239.91	1090.66	1817.76
5314	19	.063	.410	262.66	1194.04	1990.03
5315	27	.063	.470	349.63	1589.47	2649.09
5316	37	.063	.510	475.36	2160.61	3601.03
5317	48	.063	.570	587.34	2669.80	4449.69
5318	60	.063	.610	709.60	3225.43	5375.73

22 AWG SHIELDED TWISTED PAIRS (7/30)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5340	5	.063	.395	$173.25	$ 787.59	$1046.47
5341	7	.063	.410	198.45	902.13	1503.54
5342	12	.063	.510	296.08	1345.90	2243.17
5343	15	.063	.555	360.13	1637.10	2864.91
5344	19	.063	.590	422.32	1914.01	3191.95
5345	27	.063	.680	548.22	2491.86	4153.05
5346	37	.063	.770	722.01	3281.83	5469.73
5347	48	.080	.890	917.77	4171.78	6952.98
5348	60	.080	.950	1132.33	5147.02	8578.47

20 AWG SHIELDED MULTICONDUCTOR (19/32)

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
5320	5	.063	.325	$140.41	$ 638.32	$1063.95
5321	7	.063	.345	156.36	710.71	1184.53
5322	12	.063	.410	218.29	992.43	1654.09
5323	15	.063	.440	284.80	1294.78	2158.05
5324	19	.063	.465	317.26	1442.13	2403.57
5325	27	.063	.530	430.38	1956.43	3260.79
5326	37	.063	.585	577.68	2625.81	4376.40
5327	48	.063	.660	664.56	3020.62	5492.08
5328	60	.063	.715	872.17	3964.62	6607.66

20 AWG SHIELDED TWISTED PAIRS (19/32)

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	O.D., Inches	Net Each, Spool of 100′	500′	1000′
5350	5	.063	.440	$203.29	$ 924.09	$1540.15
5351	7	.063	.460	248.34	1128.57	1881.51
5352	12	.063	.580	366.90	1667.74	2779.54
5353	15	.063	.645	463.96	2109.93	3515.14
5354	19	.063	.680	535.29	2433.31	4055.55
5355	27	.063	.785	704.28	3201.37	5335.62
5356	37	.080	.930	945.69	4298.56	7164.28
5357	48	.080	1.030	1190.28	5410.39	9017.34
5358	60	.080	1.100	1452.57	6602.65	11004.51

MULTICONDUCTOR CABLE



UL STYLE 2464, 300 V, 80° C

Wiring cable suitable for industrial control equipment, business machines and many other uses. Conductor is stranded, annealed, tinned copper; insulation is PVC rated at 80° C (105° C for Type 2501) and 300 volts (600 V for Type 2501); tape wrap is 0.001" clear mylar; nylon rip cord; jacket is gray PVC, thickness as listed, and marked at one foot intervals.

BRAIDED SHIELD

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
20 AWG—10/30 STRAND						
5152	2	.032	.235	$ 66.03	$ 261.63	$ 418.57
5153	3	.032	.245	75.04	297.34	475.75
5154	4	.032	.265	82.52	327.18	523.54
5156	6	.032	.315	100.00	414.13	662.64
5158	8	.032	.335	100.00	480.45	768.73
5160	10	.032	.385	118.59	570.22	912.36
5160/15	15	.032	.425	166.36	800.02	1280.01
5160/20	20	.032	.470	209.31	1006.14	1609.89
5160/25	25	.032	.535	257.26	1237.03	1979.23
5160/30	30	.032	.565	297.81	1431.94	2291.16
5160/40	40	.050	.665	388.09	1866.01	2985.61
5160/50	50	.050	.735	466.92	2244.90	3591.88
5160/60	60	.050	.790	550.71	2647.71	4236.33
5160/70	70	.080	.925	664.71	3195.82	5113.35
5160/80	80	.080	.955	745.63	3585.00	5736.00
5160/90	90	.080	1.000	823.38	3958.80	6334.03
5160/00	100	.080	1.070	911.49	4382.44	7011.93
18 AWG—16/30 STRAND						
5162	2	.032	.255	$ 72.75	$ 288.33	$ 461.31
5163	3	.032	.265	84.45	334.62	535.50
5164	4	.032	.290	99.90	396.00	633.55
5166	6	.032	.340	103.81	499.32	798.96
5168	8	.032	.365	126.18	606.60	970.57
5170	10	.032	.420	156.18	750.79	1201.23
5170/15	15	.032	.470	216.13	1039.14	1662.69
5170/20	20	.032	.530	274.84	1321.38	2114.26
5170/25	25	.050	.625	341.73	1643.02	2628.90
5170/30	30	.050	.660	396.18	1904.65	3047.49
5170/40	40	.050	.735	504.34	2424.84	3879.81
5170/50	50	.050	.805	605.07	2909.05	4654.47
5170/60	60	.080	.935	759.10	3649.68	5839.42
5170/70	70	.080	1.015	877.39	4218.49	6749.62
5170/80	80	.080	1.050	983.62	4729.03	7566.48
5170/90	90	.080	1.095	1090.68	5243.68	8389.90
16 AWG—26/30 STRAND						
5172	2	.032	.285	$ 86.50	$ 342.91	$ 548.67
5173	3	.032	.300	100.00	422.26	675.61
5174	4	.032	.330	103.56	497.95	796.72
5176	6	.032	.385	137.14	659.47	1055.17
5178	8	.032	.415	173.71	835.15	1336.20
5180	10	.032	.480	212.76	1022.85	1636.50
5180/15	15	.032	.545	296.43	1425.13	2280.16
5180/20	20	.050	.645	389.31	1871.73	2994.79
5180/25	25	.050	.720	473.07	2264.80	3623.73
5180/30	30	.050	.760	549.64	2642.62	4228.17
5180/40	40	.080	.910	741.30	3564.01	5702.41
5180/50	50	.080	1.000	904.54	4348.80	6958.06
5180/60	60	.080	1.070	1066.87	5129.29	8206.96
COMBINATION GAUGES						
5141	6*	.032	.310	$100.00	$403.77	$646.03
5142	7†	.032	.325	100.00	434.55	695.36
5143	8‡	.032	.390	100.00	548.93	750.45

UNSHIELDED

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
20 AWG (10/30) STRAND						
5052	2	.032	.220	$ 36.27	$ 143.85	$ 230.19
5053	3	.032	.225	44.12	174.81	279.66
5054	4	.032	.245	52.03	206.20	329.94
5056	6	.032	.285	69.72	276.28	442.03
5058	8	.032	.315	83.70	331.74	530.76
5060	10	.032	.360	100.00	401.37	642.22
5060/15	15	.032	.405	120.76	580.71	929.10
5060/20	20	.032	.450	155.80	749.16	1198.63
5060/25	25	.032	.500	194.44	934.90	1495.89
5060/30	30	.032	.535	230.50	1108.12	1773.00
5060/40	40	.050	.635	312.96	1504.69	2407.50
5060/50	50	.050	.695	386.73	1859.40	2975.01
5060/60	60	.050	.750	459.19	2207.79	3737.76
5060/70	70	.080	.885	557.25	2679.22	4286.71
5060/80	80	.080	.915	630.78	3032.64	4852.27
5060/90	90	.080	.955	704.65	3387.76	5420.43
5060/00	100	.080	1.030	780.69	3753.54	6005.68
18 AWG (16/30) STRAND						
5062	2	.032	.230	$ 42.90	$ 169.99	$ 272.01
5063	3	.032	.245	54.05	214.36	343.02
5064	4	.032	.265	65.48	259.53	415.21
5066	6	.032	.320	88.62	351.27	562.02
5068	8	.032	.345	100.00	441.66	706.57
5070	10	.032	.395	111.42	535.90	857.43
5070/15	15	.032	.445	162.22	780.03	1248.06
5070/20	20	.032	.495	213.16	1024.99	1639.98
5070/25	25	.032	.555	263.34	1266.15	2025.76
5070/30	30	.050	.625	322.84	1552.26	2483.67
5070/40	40	.050	.700	423.82	2037.76	3260.41
5070/50	50	.050	.770	525.52	2526.66	4042.68
5070/60	60	.080	.895	650.08	3125.55	5000.91
5070/70	70	.080	.975	754.63	3628.08	5804.94
5070/80	80	.080	1.010	854.64	4108.95	6574.44
5070/90	90	.080	1.055	955.95	4595.92	7351.84
5070/00	100	.080	1.135	1059.76	5095.08	8152.12
16 AWG (26/30) STRAND						
5072	2	.032	.260	$ 53.73	$ 213.15	$ 341.04
5073	3	.032	.275	71.23	282.33	451.74
5074	4	.032	.300	88.42	350.28	560.46
5076	6	.032	.365	101.43	487.81	780.49
5078	8	.032	.395	129.54	623.04	996.84
5080	10	.032	.455	177.72	854.52	1367.26
5080/15	15	.032	.515	233.47	1122.55	1796.14
5080/20	20	.050	.610	316.17	1520.16	2432.26
5080/25	25	.050	.680	390.90	1879.51	3007.27
5080/30	30	.050	.725	463.80	2229.94	3567.93
5080/40	40	.080	.875	635.31	3054.58	4887.33
5080/50	50	.080	.960	785.32	3775.57	6040.96
5080/60	60	.080	1.030	935.02	4495.42	7192.65
COMBINATION GAUGES						
5041	6*	.032	.280	$53.44	$211.72	$338.77
5042	7†	.032	.295	71.08	283.27	462.88
5043	8‡	.032	.365	79.86	316.59	506.49

*Contains four #22 (7/30) and two #18 (16/30). †Contains five #22 (7/30) and two #18 (16/30). ‡Contains six #22 (7/30) and two #18 (16/30).

ALSO AVAILABLE IN #24 AND #22 AWG. PRICES AVAILABLE ON REQUEST.

UL STYLE 2464 FOIL SHIELD, 300 V, 80° C

Alpha No.	No. of Conds.	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
20 AWG—10/30 STRAND						
5462	2	.032	.225	$ 45.63	$ 182.41	$ 307.32
5463	3	.032	.230	53.49	213.34	356.77
5464	4	.032	.250	61.41	244.74	407.05
5466	6	.032	.290	79.10	314.82	519.16
5468	8	.032	.315	93.06	370.27	607.86
5470	10	.032	.365	100.00	439.95	719.34
5470/15	15	.032	.410	128.47	619.24	1006.21
5470/20	20	.032	.455	163.51	787.69	1275.73
5470/25	25	.032	.505	202.15	890.34	1572.97
5470/30	30	.032	.535	238.21	1146.67	1850.11
5470/40	40	.053	.640	320.67	1543.24	2484.63
5470/50	50	.053	.715	394.44	1897.95	3052.08
5470/60	60	.053	.755	466.93	2246.34	3814.86
5470/70	70	.083	.890	564.96	2717.77	4363.83
5470/80	80	.083	.920	638.50	3071.20	4929.36
5470/90	90	.083	.960	712.36	3426.30	5497.54
5470/00	100	.083	1.035	788.40	3792.09	6082.74
18 AWG—16/30 STRAND						
5382	2	.032	.235	$ 52.25	$ 208.54	$ 349.12
5383	3	.032	.250	63.43	252.91	420.12
5384	4	.032	.270	74.86	298.08	492.30
5386	6	.032	.325	97.95	389.71	639.13
5388	8	.032	.350	100.00	480.21	783.69
5390	10	.032	.400	119.14	574.47	934.53
18 AWG—16/30 STRAND (CONT.)						
5390/15	15	.032	.450	$169.93	$ 818.59	$1325.14
5390/20	20	.032	.495	220.89	1063.53	1717.08
5390/25	25	.053	.605	271.05	1304.70	2102.89
5390/30	30	.053	.635	330.57	1590.82	2560.75
5390/40	40	.053	.705	431.53	2076.31	3337.53
5390/50	50	.053	.785	533.23	2566.57	4119.72
5390/60	60	.083	.900	657.81	3164.10	5077.98
5390/70	70	.083	.980	762.34	3666.63	5882.05
5390/80	80	.083	1.015	862.36	4147.51	6651.52
5390/90	90	.083	1.060	963.67	4634.46	7428.96
16 AWG—26/30 STRAND						
5362	2	.032	.265	$ 63.08	$ 251.71	$ 349.12
5363	3	.032	.280	80.61	320.89	528.84
5364	4	.032	.305	97.77	388.83	637.57
5366	6	.032	.365	109.15	526.36	857.61
5368	8	.032	.390	137.26	661.59	1073.94
5370	10	.032	.455	185.43	893.08	1444.36
5370/15	15	.032	.520	241.20	1161.10	1873.23
5370/20	20	.053	.615	323.89	1558.69	2509.38
5370/25	25	.053	.685	398.61	1916.01	3084.37
5370/30	30	.053	.720	471.52	2268.49	3645.03
5370/40	40	.083	.865	643.02	3093.13	4950.55
5370/50	50	.083	.965	793.02	3814.12	6118.74
5370/60	60	.083	1.026	942.73	4534.00	7265.64

UL STYLE 2464 MULTIPAIR CABLE, 300 V, 80° C

FOIL SHIELD

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
24 AWG—7/32 STRAND						
5491	1	.032	.165	$ 40.97	$ 163.93	$ 277.71
5492	2	.032	.220	52.20	208.23	348.39
5493	3	.032	.240	63.41	252.73	419.82
5494	4	.032	.275	75.08	298.89	493.63
5495	5	.032	.280	86.23	341.47	564.73
5496	6	.032	.290	97.50	387.90	636.04
5499	9	.032	.360	109.17	526.42	857.67
5499/11	11	.032	.375	127.83	616.05	1001.08
5499/15	15	.032	.430	169.54	806.89	1306.42
5499/19	19	.032	.445	204.25	983.53	1589.05
5499/27	27	.032	.515	280.30	1349.25	2174.22
5499/51	51	.053	.715	519.27	2498.07	4012.36
5499/77	77	.085	.910	805.83	3875.72	6216.79
5499/02	102	.085	1.010	1059.91	5097.39	8171.25
22 AWG—7/30 STRAND						
5481	1	.032	.175	$ 42.19	$ 168.82	$ 285.55
5482	2	.032	.235	55.84	222.73	371.85
5483	3	.032	.265	69.23	274.83	455.14
5484	4	.032	.300	82.61	328.87	541.68
5485	5	.032	.315	95.64	380.53	624.28
5486	6	.032	.325	100.00	432.28	707.10
5489	9	.032	.400	123.04	593.28	964.66
5489/11	11	.032	.420	144.66	697.09	1130.80
5489/15	15	.032	.475	191.14	920.55	1488.33
5489/19	19	.032	.510	234.09	1127.16	1818.90
5489/27	27	.053	.625	330.75	1591.69	2562.12
5489/51	51	.085	.850	596.44	2869.17	4606.09
5489/77	77	.085	1.005	924.24	4444.96	7127.28
5489/02	102	.085	1.120	1215.58	5845.68	9368.49
20 AWG—10/32 STRAND						
5453	3	.032	.350	$ 83.67	$ 332.97	$ 548.22
5456	6	.032	.430	112.50	542.44	883.27
5459	9	.032	.530	158.34	762.70	1235.80
5459/12	12	.053	.620	201.54	970.45	1568.13
5459/15	15	.053	.680	257.37	1238.85	1997.61
5459/19	19	.053	.725	315.25	1517.28	2443.06
5459/27	27	.083	.905	457.03	2198.92	3533.77
18 AWG—16/30 STRAND						
5373	3	.032	.380	$100.00	$ 415.95	$ 680.83
5376	6	.032	.475	147.52	710.86	1152.81
5379	9	.053	.625	221.38	1035.00	1720.77
5379/12	12	.053	.675	282.67	1360.38	2192.34
5379/15	15	.053	.745	344.88	1659.69	2670.85
5379/19	19	.083	.860	425.64	2047.98	3292.20
5379/27	27	.083	.995	616.89	2967.42	4763.28

UNSHIELDED

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
24 AWG—7/32 STRAND						
5261	1	.032	.160	$ 31.61	$ 125.38	$ 200.61
5262	2	.032	.215	42.82	169.69	271.27
5263	3	.032	.235	54.04	214.17	342.70
5264	4	.032	.270	65.70	260.34	416.53
5265	5	.032	.275	76.88	304.75	487.60
5266	6	.032	.285	88.14	349.36	558.94
5269	9	.032	.355	101.44	487.87	780.57
5269/11	11	.032	.370	120.10	577.48	923.95
5269/15	15	.032	.425	159.75	768.33	1229.34
5269/19	19	.032	.440	196.54	944.98	1511.97
5269/27	27	.032	.510	272.58	1310.70	2097.13
5269/51	51	.050	.710	511.57	2459.52	3935.26
5269/77	77	.080	.905	798.10	3837.27	6139.66
5269/02	102	.080	1.005	1052.22	5058.84	8094.16
22 AWG—7/30 STRAND						
5021	1	.032	.170	$ 32.83	$ 130.29	$ 208.42
5022	2	.032	.230	46.48	184.17	294.72
5023	3	.032	.260	59.59	236.25	378.03
5024	4	.032	.295	73.24	290.34	464.56
5025	5	.032	.310	86.27	342.00	547.18
5026	6	.032	.320	99.41	393.72	629.98
5029	9	.032	.395	115.33	554.73	887.56
5029/11	11	.032	.415	136.95	658.56	1053.67
5029/15	15	.032	.470	183.43	882.00	1411.20
5029/19	19	.032	.505	226.36	1088.58	1741.78
5029/27	27	.050	.620	323.02	1553.14	2485.03
5029/51	51	.050	.785	588.73	2830.62	4528.99
5029/77	77	.080	1.000	916.51	4406.40	7050.19
5029/02	102	.080	1.115	1207.87	5807.13	9291.37
20 AWG—10/30 STRAND						
5283	3	.032	.345	$ 74.29	$ 294.40	$ 471.09
5286	6	.032	.425	104.79	503.88	806.16
5289	9	.032	.525	150.61	724.15	1158.70
5289/12	12	.032	.570	193.83	931.90	1491.00
5289/15	15	.050	.675	249.64	1200.30	1920.48
5289/19	19	.050	.720	307.54	1478.76	2365.95
5289/27	27	.080	.900	449.31	2160.37	3456.64
18 AWG—16/30 STRAND						
5033	3	.032	.375	$ 95.22	$ 377.38	$ 603.87
5036	6	.032	.470	139.81	672.31	1075.69
5039	9	.050	.620	213.66	1027.30	1643.65
5039/12	12	.050	.670	274.99	1322.01	2115.25
5039/15	15	.050	.745	337.18	1621.14	2593.75
5039/19	19	.050	.795	417.91	2009.41	3215.10
5039/27	27	.080	.990	609.16	2928.85	4686.15

UL STYLE 2501 MULTICONDUCTOR, 600 V, 105° C

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
22 AWG—7/30 STRAND						
5504	4	.063	.390	$100.00	$ 412.44	$ 659.95
5505	5	.063	.420	100.00	465.82	745.36
5507	7	.063	.450	112.96	543.16	869.11
5509	9	.063	.510	142.89	687.16	1099.42
5509/12	12	.063	.555	170.61	820.30	1312.48
5509/15	15	.063	.610	205.72	989.11	1582.56
5509/19	19	.063	.650	241.32	1160.17	1856.31
5509/25	25	.063	.745	300.19	1443.16	2309.04
20 AWG—10/30 STRAND						
5514	4	.063	.410	$100.00	$ 452.85	$ 724.59
5515	5	.063	.440	115.02	553.00	884.79
5517	7	.063	.470	133.54	642.12	1027.36
5519	9	.063	.535	163.56	786.43	1258.29
5519/12	12	.063	.595	200.22	962.52	1540.03
5519/15	15	.063	.640	237.93	1144.00	1830.46
5519/19	19	.063	.685	283.56	1363.33	2181.43
5519/25	25	.063	.735	379.29	1823.56	2917.68
18 AWG—16/30 STRAND						
5524	4	.063	.435	$111.01	$ 533.77	$ 854.02
5525	5	.063	.465	131.73	633.45	1013.55
5527	7	.063	.500	161.34	775.78	1241.25
5529	9	.063	.570	194.97	937.45	1499.94
5529/12	12	.063	.635	243.69	1171.86	1874.91
5529/15	15	.063	.685	293.13	1409.38	2255.01
5529/19	19	.063	.735	345.33	1660.36	2571.34
5529/25	25	.080	.885	454.17	2183.58	3493.75
16 AWG—26/30 STRAND						
5534	4	.063	.465	$139.54	$ 670.96	$1073.55
5535	5	.063	.500	163.15	784.48	1255.20
5537	7	.063	.540	202.77	974.95	1559.94
5539	9	.063	.630	251.10	1207.27	1931.65
5539/12	12	.063	.690	315.57	1517.28	2427.63
5539/15	15	.063	.750	374.17	1798.83	2878.18
5539/19	19	.063	.805	452.88	2177.35	3483.72
5539/25	25	.080	.965	624.49	3002.53	4804.03
14 AWG—41/30 STRAND						
5544	4	.063	.505	$178.15	$ 856.51	$1370.50
5545	5	.063	.545	208.06	1000.42	1600.65
5547	7	.063	.600	265.30	1149.30	1838.88
5549	9	.063	.690	329.04	1582.20	2531.50
5549/12	12	.063	.765	416.02	2000.16	3200.38
5549/15	15	.063	.835	500.34	2405.59	3848.92
5549/19	19	.080	.930	630.28	3030.37	4848.64
5549/25	25	.080	1.070	807.66	3883.17	6213.06

Alpha No.	No. of Pairs	Nominal Jacket Thickness, Inches	Nominal O.D., Inches	Net Each, Spool of 100′	500′	1000′
22 AWG (7/30) STRAND						
5404	4	.063	.370	$ 66.18	$ 262.27	$ 419.65
5405	5	.063	.395	75.62	299.82	479.74
5407	7	.063	.425	93.09	368.04	590.46
5409	9	.063	.485	100.00	446.97	715.21
5409/12	12	.063	.535	116.44	559.95	895.98
5409/15	15	.063	.575	142.66	685.99	1097.64
5409/19	19	.063	.615	172.11	827.61	1324.20
5409/25	25	.063	.710	220.65	1060.92	1697.52
20 AWG (10/30) STRAND						
5414	4	.063	.385	$ 75.91	$ 301.06	$ 481.71
5415	5	.063	.415	87.92	348.15	557.38
5417	7	.063	.445	100.00	435.61	696.94
5419	9	.063	.510	110.82	532.77	852.45
5419/12	12	.063	.565	139.92	672.82	1076.52
5419/15	15	.063	.610	171.34	823.90	1318.20
5419/19	19	.063	.650	208.99	1004.91	1607.86
5419/25	25	.063	.750	268.66	1291.66	2066.62
18 AWG (16/30) STRAND						
5424	4	.063	.410	$ 92.09	$ 364.96	$ 584.01
5425	5	.063	.445	100.00	427.42	683.92
5427	7	.063	.475	113.37	545.13	872.25
5429	9	.063	.555	138.57	666.33	1066.15
5429/12	12	.063	.605	178.39	857.71	1372.35
5429/15	15	.063	.655	219.46	1055.17	1688.31
5429/19	19	.063	.700	269.05	1293.60	2069.73
5429/25	25	.063	.810	344.28	1655.31	2648.50
16 AWG—26/30 STRAND						
5434	4	.063	.440	$100.00	$ 464.23	$ 742.77
5435	5	.063	.480	114.67	551.40	882.21
5437	7	.063	.515	148.84	715.80	1145.26
5439	9	.063	.595	185.41	891.60	1426.59
5439/12	12	.063	.660	240.37	1155.88	1849.42
5439/15	15	.063	.715	294.64	1416.67	2266.72
5439/19	19	.063	.765	363.67	1748.70	2797.90
5439/25	25	.080	.925	487.26	2342.61	3748.20
14 AWG—41/30 STRAND						
5444	4	.063	.485	$127.59	$ 613.53	$ 981.72
5445	5	.063	.525	153.10	736.03	1177.71
5447	7	.063	.570	202.09	971.77	1554.84
5449	9	.063	.660	254.11	1221.91	1955.10
5449/12	12	.063	.730	331.21	1592.41	2547.85
5449/15	15	.063	.795	407.82	1960.71	3137.17
5449/19	19	.080	.890	520.17	2500.84	4001.31
5449/25	25	.080	1.030	675.72	3248.68	5197.86

INSTRUMENTATION CABLES

Constructed with stranded, tinned conductors and black PVC jackets. Pairs color coded black and white. Multi-pairs and multi-triples numbered at 1-inch intervals. Triples color-coded black, white and red. Aluminum-polyester tape shield and drain wire for 100% coverage. A nylon rip cord simplifies jacket removal.

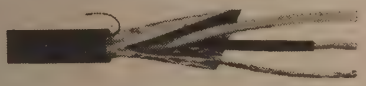
FOR INSULATION SAFETY AND RELIABILITY:
PVC—Passes UL FR-1 vertical flame test. UL listed under subject 13; complies with NEC Article 725.
PE—UL 2667.
PVC/Nylon—Passes IEEE 383 vertical flame test. UL listed under subject 1227; complies with NEC Article 340.

90° C, 300 V PVC—SINGLE PAIR, UNSHIELDED



Alpha No.	Conductor Size	Conductor Strand	Nom. Jacket Thickness	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5600/2001	20	7/28	.035″	.205″	$175.00	$39.90
5600/1801	18	7/26	.035″	.237″	222.00	50.80
5600/1601	16	19/29	.035″	.255″	276.00	63.30

90° C 300 V PVC—SINGLE PAIR, SHIELDED



Alpha No.	Conductor Size	Conductor Strand	Nom. Jacket Thickness	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5610/2401*	24	7/32	.030″	.159″	$ 96.00	$21.70
5610/2201	22	7/30	.035″	.191″	133.00	30.10
5610/2001	20	7/28	.035″	.207″	195.00	44.40
5610/1801	18	7/26	.035″	.239″	261.00	59.50
5610/1601	16	19/29	.035″	.257″	312.00	71.40
5610/1401*	14	19/27	.040″	.309″	372.00	84.70
5610/1201*	12	19/25	.040″	.347″	436.00	99.40

80° C, 300 V PE—SINGLE PAIR, SHIELDED

5611/2401	24	7/32	.020″	.151″	$ 9.060	$20.40
5611/2201	22	7/30	.020″	.165″	122.00	27.90
5611/2001	20	7/28	.020″	.181″	180.00	40.90
5611/1801	18	7/26	.020″	.201″	240.00	54.40

90° C, 600 V PVC/NYLON—SINGLE PAIR, SHIELDED

5616/2001*	20	7/28	.035″	.219″	$249.00	$56.80
5616/1801	18	7/26	.045″	.279″	348.00	79.50
5616/1601	16	19/29	.045″	.297″	445.00	101.00
5616/1401	14	19/27	.045″	.327″	594.00	134.00
5616/1201	12	19/25	.045″	.365″	766.00	174.00

*Not U.L. listed.

90° C, 300 V PVC—SINGLE TRIPLE, UNSHIELDED



Alpha No.	Conductor Size	Conductor Strand	Nom. Jacket Thickness	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5630/2001	20	7/28	.035″	.215″	$211.00	$48.30
5630/1801	18	7/26	.035″	.250″	265.00	60.40
5630/1601	16	19/29	.035″	.269″	366.00	84.00

90° C, 300 V PVC—SINGLE TRIPLE, SHIELDED

Alpha No.	Conductor Size	Conductor Strand	Nom. Jacket Thickness	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5640/2201	22	7/30	.035″	.200″	$211.00	$48.30
5640/2001	20	7/28	.035″	.217″	276.00	63.00
5640/1801	18	7/26	.035″	.252″	339.00	77.70
5640/1601	16	19/29	.035″	.271″	408.00	93.30

80° C, 300 V PE—SINGLE TRIPLE, SHIELDED

5641/2201	22	7/30	.020″	.175″	$201.00	$46.00
5641/2001	20	7/28	.020″	.192″	265.00	60.40
5641/1801	18	7/26	.020″	.213″	328.00	75.10

90° C, 600 V PVC/NYLON—SINGLE TRIPLE, SHIELDED

Alpha No.	Conductor Size	Conductor Strand	Nom. Jacket Thickness	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5646/1801	18	7/26	.045″	.293″	$442.00	$100.00
5646/1601	16	19/29	.045″	.313″	580.00	132.00
5646/1401	14	19/27	.045″	.345″	618.00	140.00

90° C, 300 V PVC—MULTI-PAIR, OVERALL SHIELDED



Alpha No	No. Pairs	Conductor Size	Conductor Strand	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5610/2002	2	20	7/28	.310″	$ 519.00	$ 82.00
5610/2004	4	20	7/28	.409″	703.00	111.00
5610/2008	8	20	7/28	.486″	966.00	166.00
5610/2010	10	20	7/28	.540″	1170.00	225.00
5610/2012	12	20	7/28	.566″	1326.00	253.00
5610/2016	16	20	7/28	.650″	1659.00	319.00
5610/2020	20	20	7/28	.702″	1968.00	379.00
5610/2024	24	20	7/28	.755″	2073.00	397.00
5610/2036	36	20	7/28	.914″	3111.00	598.00
5610/2050	50	20	7/28	1.048″	4396.00	846.00
5610/1602	2	16	19/29	.415″	883.00	139.00
5610/1604	4	16	19/29	.522″	1189.00	186.00
5610/1608	8	16	19/29	.648″	1731.00	300.00
5610/1612	12	16	19/29	.760″	2187.00	418.00
5610/1616	16	16	19/29	.849″	2832.00	543.00
5610/1624	24	16	19/29	1.015″	4041.00	778.00
5610/1636	36	16	19/19	1.208″	5826.00	1120.00

90° C, 600 V PVC/NYLON—MULTI-PAIR, OVERALL SHIELDED

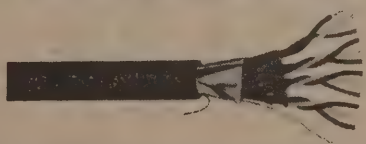
5616/1602	2	16	19/29	.436″	$1003.00	$157.00
5616/1604	4	16	19/29	.587″	1365.00	213.00
5616/1608	8	16	19/29	.705″	1953.00	337.00
5616/1612	12	16	19/29	.870″	2407.00	462.00
5616/1624	24	16	19/29	1.131″	4546.00	874.00

90° C, 300 V PVC—MULTI-PAIR, INDIVIDUALLY SHIELDED



Alpha No.	No. Pairs	Conductor Size	Conductor Strand	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5620/2002	2	20	7/28	.365″	$ 661.00	$104.00
5620/2004	4	20	7/28	.442″	946.00	149.00
5620/2008	8	20	7/28	.561″	1398.00	243.00
5620/2012	12	20	7/28	.693″	1719.00	328.00
5620/2016	16	20	7/28	.766″	2244.00	432.00
5620/2020	20	20	7/28	.847″	2712.00	522.00
5620/2024	24	20	7/28	.959″	3183.00	609.00
5620/2036	36	20	7/28	1.092″	4653.00	895.00
5620/2050	50	20	7/28	1.254″	6247.00	1203.00
5620/1602	2	16	19/29	.487″	1023.00	160.00
5620/1604	4	16	19/29	.563″	1584.00	247.00
5620/1608	8	16	19/29	.747″	2718.00	469.00
5620/1612	12	16	19/29	.920″	3156.00	606.00
5620/1616	16	16	19/29	1.021″	4182.00	804.00
5620/1624	24	16	19/29	1.279″	5994.00	1155.00

90° C, 300 V PVC—MULTI-TRIPLE, OVERALL SHIELD



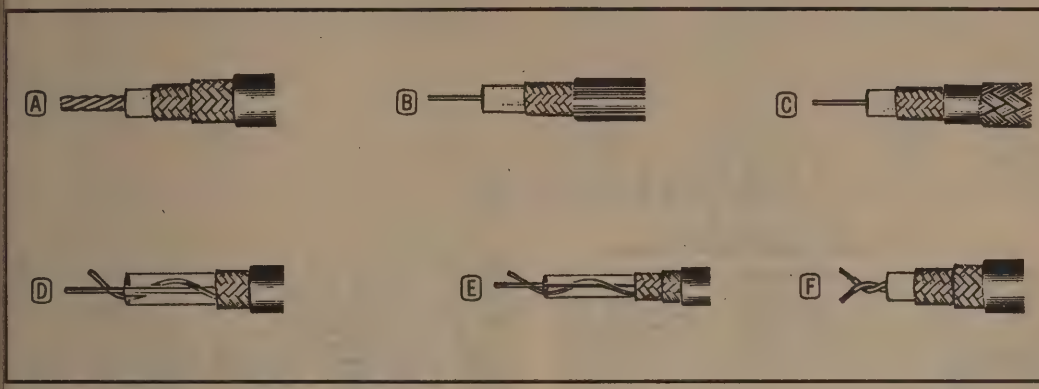
Alpha No.	No. Triples	Conductor Size	Conductor Strand	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
5640/2004	4	20	7/28	.454″	$1029.00	$162.00
5640/2012	12	20	7/28	.714″	1684.00	324.00
5640/2024	24	20	7/28	.989″	3867.00	744.00

SHIELDED TEFLON CABLES MIL-W-16878D

Each conductor stranded silver-plated copper. Type E, .010" extruded Teflon insulation per MIL-W-16878D. Rated 600 volts. A silver-plated copper shield is braided over the conductor(s) for 90% coverage. Temp., −65° C to +200° C.

Alpha No.	No. of Conds.	Size	Strand	Nom. O.D. Inches	Net Spool of 100′	Net Spool of 1000′
UNJACKETED—SHIELDED						
2809	1	24	19/36	.069	$ 100.00	$ 758.16
2809/2	2	24	19/36	.112	164.73	1436.14
2809/3	3	24	19/36	.120	205.23	1822.23
2809/4	4	24	19/36	.132	268.09	2453.71
2809/5	5	24	19/36	.145	291.97	2652.00
2809/6	6	24	19/36	.158	355.02	3225.00
2809/7	7	24	19/36	.158	399.10	3625.33
2809/8	8	24	19/36	.172	465.36	4227.97
2809/9	9	24	19/36	.186	519.15	4717.03
2809/10	10	24	19/36	.203	566.88	5150.86
2809/12	12	24	19/36	.210	821.02	7461.31
2809/15	15	24	19/36	.240	942.51	8622.88
2812	1	22	19/34	.075	100.00	756.78
2815/2	2	22	19/34	.124	152.20	1296.43
2812/3	3	22	19/34	.132	235.14	2123.98
2812/4	4	22	19/34	.146	298.69	2761.05
2812/5	5	22	19/34	.161	478.41	4346.58
2812/6	6	22	19/34	.176	563.49	5120.25
2812/7	7	22	19/34	.176	628.26	5709.31
2812/8	8	22	19/34	.192	736.27	6690.58
2812/9	9	22	19/34	.208	806.56	7329.90
2812/10	10	22	19/34	.227	868.41	7892.04
2812/12	12	22	19/34	.240	980.40	8909.83
2812/15	15	22	19/34	.268	1092.57	9930.24
2815	1	20	19/32	.083	109.35	832.59
2815/2	2	20	19/32	.142	171.55	1485.75
2815/3	3	20	19/32	.151	262.09	2390.40
2815/4	4	20	19/32	.168	327.25	3044.23
2815/5	5	20	19/32	.182	383.20	3481.41
2815/6	6	20	19/32	.200	461.56	4193.97
2815/7	7	20	19/32	.200	528.85	4805.28
2815/8	8	20	19/32	.218	615.75	5595.22
2815/9	9	20	19/32	.242	686.26	6236.44
2815/10	10	20	19/32	.264	749.88	6814.90
2818	1	18	19/30	.093	146.80	1239.72
2818/2	2	18	19/30	.162	243.33	2202.45
2818/3	3	18	19/30	.172	329.32	2991.84
2818/4	4	18	19/30	.192	464.64	4420.83
2818/5	5	18	19/30	.212	545.40	4955.92
2818/6	6	18	19/30	.238	651.42	5919.43
2818/7	7	18	19/30	.238	750.24	6817.39
2818/8	8	18	19/30	.260	870.03	7907.04
2818/9	9	18	19/30	.281	965.73	8776.99
2818/10	10	18	19/30	.308	1053.82	9578.01
2807	1	16	19/29	.103	146.07	1232.89
2807/2	2	16	19/29	.184	303.72	2811.06
2807/3	3	16	19/29	.189	393.97	3646.86
2807/4	4	16	19/29	.209	484.18	4482.73
2807/5	5	16	19/29	.236	585.37	5318.53
2807/6	6	16	19/29	.259	701.47	6374.50
2807/7	7	16	19/29	.259	805.56	7320.91
2807/8	8	16	19/29	.283	945.00	8587.68
2806	1	14	19/27	.117	154.26	1399.38
2806/2	2	14	19/27	.211	303.72	2759.10
2806/3	3	14	19/27	.230	436.53	3965.76
2806/4	4	14	19/27	.255	561.49	5102.04
2806/5	5	14	19/27	.282	683.91	6215.13
2806/6	6	14	19/27	.310	833.59	7546.74
2805	1	12	19/25	.136	221.31	2009.47
2805/2	2	12	19/25	.254	440.67	4002.96
2805/3	3	12	19/25	.271	640.36	5818.29
2805/4	4	12	19/25	.300	826.75	7513.54
FIBERGLASS BRAID OVER SHIELD						
2811	1	24	19/36	.083	$ 118.42	$ 954.00
2811/2	2	24	19/36	.126	163.99	1409.29
2811/3	3	24	19/36	.134	258.33	2149.44
2811/4	4	24	19/36	.146	297.96	2747.46
2811/5	5	24	19/36	.159	404.79	3677.28
2811/6	6	24	19/36	.172	480.25	4362.93
2811/7	7	24	19/36	.172	526.47	4783.18
2811/8	8	24	19/36	.186	602.37	5473.48
2811/9	9	24	19/36	.200	658.96	5987.76
2811/10	10	24	19/36	.217	708.99	6442.47
2811/12	12	24	19/36	.224	803.59	7302.46
2811/15	15	24	19/36	.254	972.36	8836.77
2814	1	22	19/34	.089	122.92	999.52
2814/2	2	22	19/34	.138	178.24	1555.83
2814/3	3	22	19/34	.146	263.43	2408.97
2814/4	4	22	19/34	.160	327.75	3053.34
2814/5	5	22	19/34	.175	478.41	4346.58
2814/6	6	22	19/34	.190	563.49	5120.25
2814/7	7	22	19/34	.190	628.26	5709.31
2814/8	8	22	19/34	.206	736.27	6690.58
2814/9	9	22	19/34	.222	806.56	7329.90
2814/10	10	22	19/34	.241	868.41	7892.04
2814/12	12	22	19/34	.254	980.40	8909.83
2814/15	15	22	19/34	.282	1092.57	9930.24
2817	1	20	19/32	.097	131.46	1089.25
2817/2	2	20	19/32	.156	199.21	1771.39
2817/3	3	20	19/32	.165	294.16	2715.45
2817/4	4	20	19/32	.182	$362.14	$ 3390.51
2817/5	5	20	19/32	.196	504.46	4583.67
2817/6	6	20	19/32	.214	603.93	5487.84
2817/7	7	20	19/32	.214	676.23	6144.55
2817/8	8	20	19/32	.232	782.62	7112.20
2817/9	9	20	19/32	.256	856.77	7786.81
2817/10	10	20	19/32	.278	923.65	8394.64
2819	1	18	19/30	.107	177.42	1550.55
2819/2	2	18	19/30	.176	268.57	2461.03
2819/3	3	18	19/30	.186	352.41	3297.76
2819/4	4	18	19/30	.206	504.99	4823.74
2819/5	5	18	19/30	.226	686.77	6240.42
2819/6	6	18	19/30	.252	805.95	7324.57
2819/7	7	18	19/30	.252	913.27	8299.47
2819/8	8	18	19/30	.274	1067.35	9700.54
2819/9	9	18	19/30	.295	1166.64	10603.99
2819/10	10	18	19/30	.322	1259.13	11443.51
2820	1	16	19/29	.117	192.72	1697.13
2820/2	2	16	19/29	.198	338.46	3158.08
2820/3	3	16	19/29	.203	463.78	4328.07
2820/4	4	16	19/29	.223	589.08	5498.14
2820/5	5	16	19/29	.250	733.75	6668.10
2820/6	6	16	19/29	.274	868.35	7891.60
2820/7	7	16	19/29	.274	978.99	8897.28
2820/8	8	16	19/29	.297	1156.59	10511.25
2804	1	14	19/27	.131	224.55	2039.16
2804/2	2	14	19/27	.225	388.20	3526.99
2804/3	3	14	19/27	.244	525.79	4777.83
2804/4	4	14	19/27	.269	652.17	5925.96
2804/5	5	14	19/27	.296	792.81	7204.68
2804/6	6	14	19/27	.324	852.94	7751.47
2803	1	12	19/25	.150	307.44	2792.71
2803/2	2	12	19/25	.268	537.04	4732.47
2803/3	3	12	19/25	.285	737.37	6701.37
2803/4	4	12	19/25	.314	927.91	8432.64
TFE FIBERGLASS TAPE OVER SHIELD						
2821	1	24	19/36	.095	$ 100.00	$ 787.95
2821/2	2	24	19/36	.138	149.46	1196.91
2821/3	3	24	19/36	.146	193.32	1546.83
2821/4	4	24	19/36	.158	238.78	1911.19
2821/5	5	24	19/36	.171	410.05	3724.66
2821/6	6	24	19/36	.184	482.86	4386.55
2821/7	7	24	19/36	.184	524.11	4761.60
2821/8	8	24	19/36	.198	641.31	5827.74
2821/9	9	24	19/36	.212	699.18	6353.74
2821/10	10	24	19/36	.229	750.49	6819.75
2821/12	12	24	19/36	.236	863.85	7850.17
2821/15	15	24	19/36	.266	1035.90	9414.81
2824	1	22	19/34	.101	101.86	815.26
2824/2	2	22	19/34	.150	181.92	1455.03
2824/3	3	22	19/34	.158	224.61	1796.85
2824/4	4	22	19/34	.172	279.37	2235.33
2824/5	5	22	19/34	.187	484.12	4398.57
2824/6	6	22	19/34	.202	568.06	5161.02
2824/7	7	22	19/34	.202	634.27	5763.99
2824/8	8	22	19/34	.218	757.41	6882.87
2824/9	9	22	19/34	.234	827.62	7521.25
2824/10	10	22	19/34	.253	890.85	8096.17
2824/12	12	22	19/34	.266	1025.61	9321.75
2824/15	15	22	19/34	.294	1237.45	11247.00
2827	1	20	19/32	.109	129.97	1040.40
2827/2	2	20	19/32	.168	212.80	1703.29
2827/3	3	20	19/32	.177	269.20	2154.24
2827/4	4	20	19/32	.194	320.89	2567.56
2827/5	5	20	19/32	.208	518.94	4715.26
2827/6	6	20	19/32	.226	611.59	5557.65
2827/7	7	20	19/32	.226	705.58	6411.81
2827/8	8	20	19/32	.246	823.56	7483.95
2827/9	9	20	19/32	.268	899.35	8173.86
2827/10	10	20	19/32	.290	967.87	8796.07
2829	1	18	19/30	.119	138.15	1104.84
2829/2	2	18	19/30	.188	250.69	2005.83
2829/3	3	18	19/30	.198	316.45	2531.92
2829/4	4	18	19/30	.218	404.91	3235.95
2829/5	5	18	19/30	.238	726.88	6605.17
2829/6	6	18	19/30	.264	850.42	7728.67
2829/7	7	18	19/30	.264	957.06	8698.09
2829/8	8	18	19/30	.286	1146.78	10422.36
2829/9	9	18	19/30	.307	1248.57	11347.38
2829/10	10	18	19/30	.334	1343.08	12206.61
2826	1	16	19/29	.129	170.35	1367.82
2826/2	2	16	19/29	.210	293.95	2352.24
2826/3	3	16	19/29	.215	397.72	3182.40
2826/4	4	16	19/29	.235	494.83	3959.01
2826/5	5	16	19/29	.262	610.39	5546.67
2826/6	6	16	19/29	.286	918.09	8344.02
2826/7	7	16	19/29	.286	1031.26	9372.51
2826/8	8	16	19/29	.309	1220.83	11096.13
2825	1	14	19/27	.143	243.07	2207.11
2825/2	2	14	19/27	.237	429.07	3899.49
2825/3	3	14	19/27	.256	612.70	5567.59
2825/4	4	14	19/27	.281	760.29	6909.21
2825/5	5	14	19/27	.308	906.40	8237.16
2825/6	6	14	19/27	.336	1079.85	9813.93
2823	1	12	19/.0185″	.162	322.08	2925.31
2823/2	2	12	19/.0185″	.280	599.19	5444.71
2823/3	3	12	19/.0185″	.297	844.80	7677.46
2823/4	4	12	19/.0185″	.326	1060.14	9635.08

*Other put-ups and discounts are available upon request.



POLYETHYLENE DIELECTRIC RG/U COAXIAL CABLES

Factory tested to assure physical and electrical performance. Production runs are subjected to electrical property tests to determine capacitance, impedance and attenuation. Further tests are made for corona extinction and physical properties. Dielectrics and insulating jackets are subjected to aging and flow tests in a special forced-draft oven; plus, exposure to extreme low temperatures in sub-zero environmental chamber to determine cold-bend properties. All have solid polyethylene dielectric (VP, 65.9%) except as noted. Dimensions shown are max.

Alpha No.	MIL No. RG-	Fig.	Center Conductor Mat.*	Strand	O.D., In.	Shields* 1st	Shields* 2nd	Jacket Mat.*	Jacket O.D., In.	Oper. Volts rms	Nom. Imped. Ohms	Cap., pF/ft.	Net Price per Put-Up 100′ Put-Up	500′ Put-Up	1000′ Put-Up
9006A	6A/U	A	CW	1	.0285	SC	C	NCV	.336	2700	75	20	$307.02	$1498.71	$2943.63
9008♦	8/U	B	C	7/.0285	.086	C	.....	V	.415	5000	52	29.5	47.39	155.04	310.06
9008A♦	8A/U	B	C	7/.0285	.086	C	.....	NCV	.415	5000	52	29.5	72.76	249.31	464.73
9009B	9B/U	A	SC	7/.0285	.086	SC	SC	NCV	.430	5000	50	30	422.97	2074.45	3862.30
9011	11/U	B	TC	7/.0159	.048	C	.....	V	.415	5000	75	20.5	52.16	169.21	338.43
9011A♦	11A/U	B	TC	7/.0159	.048	C	.....	NCV	.412	5000	75	20.5	63.25	221.76	413.32
9012A‡	12A/U	C	TC	7/.0159	.048	C	.....	NCV	.412	5000	75	20.5	100.00	404.17	793.95
9014A	14A/U	A	C	1	.102	C	C	NCV	.558	7000	52	29.5	148.66	722.79	1419.27
9017A	17A/U	B	C	1	.188	C	.....	NCV	.885	11000	52	29.5	329.62	1603.14	3206.37
9019A	19A/U	B	C	1	.250	C	.....	NCV	1.135	14000	52	29.5	524.79	.....	4809.57
9055	55/U	A	C	1	.032	TC	TC	NP	.206	1900	53.5	28.5	49.94	188.19	369.48
9055B	55B/U	A	SC	1	.032	TC	TC	BP	.206	1900	53.5	28.5	55.53	215.64	422.95
9058♦	58/U	B	C	1	.032	TC	.....	V	.200	1900	53.5	28.5	17.75	51.97	103.95
9058A	58A/U	B	TC	19/.0071	.0375	TC	.....	V	.199	1900	50	29.5	21.84	62.62	125.19
9058C	58C/U	B	TC	19/.0071	.0375	TC	.....	NCV	.199	1900	50	29.5	29.45	82.38	153.57
9059♦	59/U	B	CW	1	.0253	C	.....	V	.250	2300	73	21	24.72	64.63	118.05
9059B♦	59B/U	B	CW	1	.023	C	.....	NCV	.246	2300	75	20.5	30.52	86.10	160.50
9062*♦	62/U	D	CW	1	.025	C	.....	V	.250	750	93	13.5	18.97	70.92	137.66
9062A*	62A/U	D	CW	1	.025	C	.....	NCV	.249	750	93	13.5	15.47	73.66	147.31
9062B*♦	62B/U	D	CW	1	.025	TC	TC	BP	.250	750	93	13.5	43.92	136.68	273.30
9063B*	63B/U	D	CW	1	.0253	C	.....	NCV	.415	1000	125	10	89.45	316.74	622.26
9071B*♦	71B/U	E	CW	1	.025	C	TC	BP	.250	750	93	13.5	56.53	205.18	403.09
9174	174/U	B	CW	7/.0063	.019	TC	.....	V	.105	1500	50	30	16.71	49.57	99.15
9212	212/U	A	SC	1	.056	SC	SC	NCV	.336	3000	50	29.5	332.10	1544.32	3088.62
9213♦	213/U	B	C	7/.0296	.090	C	.....	NCV	.412	5000	50	30.5	73.04	249.31	464.56
9214	214/U	A	SC	7/.0296	.090	SC	SC	NCV	.432	5000	50	30.5	351.63	1457.56	2915.14
9215‡	215/U	C	C	7/.0296	.090	C	.....	NCV	.412	5000	50	30.5	100.00	.....	839.76
9217	217/U	A	C	1	.106	C	C	NCV	.555	7000	50	30	134.55	633.79	1267.60
9218	218/U	B	C	1	.195	C	.....	NCV	.880	11000	50	30	334.60	1565.80	3131.59
9219§	219/U	C	C	1	.195	C	.....	NCV	.880	11000	50	30	479.28	.....	4352.46
9223♦	223/U	A	SC	1	.036	SC	SC	NCV	.216	1900	50	30	128.28	534.40	1108.77

MINIATURE TEFLON® COAXIAL CABLES

Temp., −65° C to +200° C.

Alpha No.	MIL No. RG-	Fig.	Center Conductor Mat.*	Strand	O.D., In.	Shields* 1st	Shields* 2nd	Jacket Mat.*	Jacket O.D., In.	Oper. Volts rms	Nom. Imped. Ohms	Cap., pF/ft.	Net Price per Put-Up 100′ Put-Up	500′ Put-Up	1000′ Put-Up
9178B	178B/U	B	SCW	7/.004	.....	SC	.....	FEP	.075	1000	50 ± 2	27.9	$ 75.17	$269.34	$ 538.63
9179B	179B/U	B	SCW	7/.004	.....	SC	.....	FEP	.105	1200	75 ± 3	20.4	91.42	327.34	654.75
9180B	180B/U	B	SCW	7/.004	.....	SC	.....	FEP	.145	850	93 ± 2	15.3	126.82	551.16	1102.35
9187A	187A/U	B	SCW	7/.004	.....	SC	.....	TFE	.110	1200	75 ± 3	19.5	98.03	365.85	730.62
9188A	188A/U	B	SCW	7/.0067	.....	SC	.....	TFE	.110	1200	50 ± 2	27.5	98.03	353.59	707.26
9195A	195A/U	B	SCW	7/.004	.....	SC	.....	TFE	.155	1500	95 ± 3	14.5	177.39	842.35	1684.66
9196A	196A/U	B	SCW	7/.004	.....	SC	.....	TFE	.080	1000	50 ± 2	28.5	77.30	258.54	517.07

*Materials—Conductors and Shields: C, copper; CW, copper-covered steel; SC, silver-covered copper; SCC, silver-coated cadmium bronze; SCW, silver-plated, Copperweld®; TC, tinned copper. Jackets: BP, black polyethylene, Type IIIA; FEP, extruded FEP Teflon; NCV, non-contaminating polyvinylchloride, Type IIA; NP, natural polyethylene, Type III; NY, nylon; PE, solid polyethylene; TFE, fused TFE Teflon tape; V, polyvinylchloride, Type I. ‡Armor .475″ O.D. alum. wire. §Armor .945″ O.D. alum. wire. *Dielectric is SPP (semi-solid polyethylene), 84% VP. ®Reg. TM's: Teflon of DuPont; Copperweld of Copperweld Steel Corp. ♦Available in 1000-ft put-ups.

alpha ALPHA WIRE FIT® Shrinkable Tubing

Type	Chemistry	Max. Shrinkage Ratio	Oper. Temp. °C	Dielectric Strength V/mil	Volume Resistivity Ohm-cm.	Tensile Strength PSI	MIL-I-23053 Suffix
FIT-221	Polyolefin	50% @ 121° C	−55 to +135	1300	10^{15}	2500	/5A
FIT-105	PVC	50% @ 175° C	−35 to +105	750	10^{12}	2600	/2C
FIT-225	Polyolefin	50% @ 135° C	−55 to +125	750	.....	2000	/6 Class 3
FIT-295	Polyolefin	50% @ 135° C	−55 to +135	800	10^{16}	2500	/6B#
FIT-300	Polyolefin	*	−55 to +110	1100	10^{15}	2500	/4B Class 1
FIT-321	Polyolefin	30% @ 125° C	−55 to +135	350	10^{14}	2500	C/4B Class 3
FIT-260	Polyolefin	50% @ 121° C	−55 to +135	1300	.....	2500	.....
FIT-350	Kynar§	50% @ 175° C	−55 to +170	1000	2×10^{15}	8000	/8A
FIT-400	Teflon‡	80% @ 176° C	−67 to +204	2000	2×10^{18}	3100	/11A
FIT-500	Teflon	33% @ 327° C	−65 to +260	2000	10^{18}	6000	/12
FIT-600	Neoprene	57% @ 175° C	−70 to +90	300	10^{9}	1500	/1A

*From 15 to 40% depending on size. †Transparent. #Class 1 for colors; Class 2 for clear.

FIT-221 IRRADIATED POLYOLEFIN TUBING

Simple-to-use, all-purpose extruded tubing gives tight mechanical bond with thermal stability. Will not cold-flow or melt—retains form stability throughout its temperature range. Material is flammable but will not support combustion. Resistant to fuels, oils, acids, alkalis, and solvents. **Ultimate Elongation:** 400% nominal. **Longitudinal Shrinkage:** 5% nominal. **Environmental Resistance:** Will not support fungus growth. Non-corrosive. Max. water absorption, 0.5%. **Colors:** Specify clear, black, white, red, yellow, or blue.

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lengths Std. Pkg.	Pkg. Net	6" Lengths Std. Pkg.	Pkg. Net
221-3/64"	.046	.023	.016	100'	$34.16	20'	$7.99
221-1/16"	.063	.031	.017	100'	36.40	18'	7.99
221-3/32"	.093	.046	.020	100'	41.26	16'	7.99
221-1/8"	.125	.062	.020	100'	43.68	14'	7.99
221-3/16"	.187	.093	.020	100'	53.02	12'	7.99
221-1/4"	.250	.125	.025	100'	67.13	10'	7.99
221-3/8"	.375	.187	.025	100'	74.77	8'	7.99
221-1/2"	.500	.250	.025	20'	16.89	7'	7.99
221-3/4"	.750	.375	.030	20'	22.56	6'	7.99
221-1"	1.000	.500	.035	20'	31.63	4'	7.99
221-1 1/2"	1.500	.750	.040	20'	54.23	2.5'	7.99
221-2"	2.000	1.000	.045	20'	74.84	1.5'	7.99
221-3"	3.000	1.500	.050	8'	47.42	1'	7.99
221-4"	4.000	2.000	.055	8'	69.10	.5'	7.99

PACKAGED ASSORTMENTS IN 6" LENGTHS

Assorted, standard colors and sizes in 6" lengths, all identified.

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-221-MS1	3/64"–3/16" (5 sizes)	6 per size (30 total)	$ 9.39
FIT-221-MS2	1/4"–3/4" (4 sizes)	4 per size (16 total)	16.84
FIT-221-MS3	1"–4" (5 sizes)	2 per size (10 total)	17.55

FIT-105 POLYVINYLCHLORIDE TUBING

High flexibility, strength, and 50% shrinkage make FIT-105 suitable for insulating components and cables with wide shape and size variations. Shrinks evenly and will not split, even over sharp edges. **Elongation:** 250% nominal. **Longitudinal Shrinkage:** 10% nominal. **Environmental Resistance:** Inert to fungus; excellent resistance to fuel, oil, hydraulic fluid, solvents, acids, and alkalis. Self-extinguishing. Non-corrosive. **Color:** Black.

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	Net Price per Pkg. of 25'	100'	200'
105-3/64"	.046	.023	.020	$ 6.79	$ 25.00	$120.28‡
105-1/16"	.062	.031	.020	7.30	26.84	129.09‡
105-3/32"	.093	.046	.020	8.26	30.35	59.50
105-1/8"	.125	.062	.025	8.69	32.11	62.99
105-3/16"	.187	.093	.025	10.64	39.10	76.62
105-1/4"	.250	.125	.025	13.40	49.46	96.92
105-3/8"	.375	.187	.030	14.93	55.04	107.90
105-1/2"	.500	.250	.030	16.84	62.03	.....
105-3/4"	.775	.375	.035	22.59	83.12	.....
105-1"	1.000	.500	.040	31.66	116.37	.....
105-1 1/2"	1.500	.750	.045	59.61	219.41	.....
105-2"	2.000	1.000	.050	82.29§	157.66‡	.....

‡Pkg. of 500'. §Pkg. of 10' available at $34.42. #Pkg. of 50'.

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-105-MS1	3/64"–1/4" (6 sizes)	10 per size (60 total)	$10.52
FIT-105-MS2	3/8"–1" (4 sizes)	10 per size (40 total)	16.56
FIT-105-MS3	1 1/2" and 2" only	7 per size (14 total)	16.34

FIT-321 ADHESIVE-WALL POLYOLEFIN TUBING

A dual-wall, irradiated tubing that shrinks, upon application of heat, to 33% of its original diameter. The inner wall melts and fills all crevices of the covered object while outer wall shrinks. When cool, the entire mass becomes a tough molding that provides excellent environmental protection. **Ultimate Elongation:** 400% nominal. **Longitudinal Shrinkage:** 10% nominal. **Color:** Black.

PACKAGED ASSORTMENT IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-321-MS1	1/8"–1" (4 sizes)	5 per size (20 total)	$24.00

FIT-225 IRRADIATED POLYOLEFIN TUBING

Semi-rigid tubing can be used with automatic applicator machines which apply pre-cut tubing onto terminals at high speed. Unaffected by common fluids and solvents. Non-corrosive; self-extinguishing; will not support fungus growth. Water absorption, 0.2% max. **Elongation:** 500%. **Longitudinal Shrinkage:** 5% nominal. **Colors:** Black, white.

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lengths Std. Pkg.	Pkg. Net	6" Lengths Std. Pkg.	Pkg. Net
225-3/64"	.046	.023	.020	100'	$34.58	40'	$8.35
225-1/16"	.063	.031	.020	100'	36.84	36'	8.35
225-3/32"	.093	.046	.020	100'	42.70	32'	8.35
225-1/8"	.125	.062	.020	100'	45.21	28'	8.35
225-3/16"	.187	.093	.020	100'	54.87	24'	8.35
225-1/4"	.250	.125	.025	100'	69.48	20'	8.35
225-3/8"	.375	.187	.025	100'	77.40	16'	8.35
225-1/2"	.500	.250	.025	20'	17.47	14'	8.35
225-3/4"	.750	.375	.030	20'	23.33	12'	8.35
225-1"	1.000	.500	.035	20'	32.73	8'	8.35

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-225-MS1	1/16"–3/16" (4 sizes)	5 per size (20 total)	$ 9.62
FIT-225-MS2	1/4"–3/4" (4 sizes)	5 per size (20 total)	19.30

FIT-295 POLYOLEFIN TUBING

Tubing provides maximum strength at stress points such as solder joints, crimps, and terminations. **Ultimate Elongation:** 300%. **Longitudinal Shrinkage:** 5% nominal. **Environmental Resistance:** Inert to fungus; resistant to fuel, oil, solvents, acids, and alkalis; non-corrosive. Self-extinguishing. **Colors:** All sizes available in black and clear as well as one additional color as shown in table below.

Alpha No. FIT-	Color	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lgths. Std. Pkg.	Pkg. Net	6" Lgths. Std. Pkg.	Pkg. Net
295-3/64"	Yellow	.046	.023	.020	100'	$ 52.73	20'	$8.61
295-1/16"	White	.063	.032	.020	100'	55.32	18'	8.61
295-3/32"	Blue	.093	.045	.020	100'	62.24	16'	8.61
295-1/8"	Red	.125	.063	.020	100'	66.60	14'	8.61
295-3/16"	Green	.187	.093	.025	100'	81.40	12'	8.61
295-1/4"	Slate	.250	.125	.025	100'	101.47	10'	8.61
295-3/8"	Brown	.375	.187	.030	100'	112.81	8'	8.61
295-1/2"	White	.500	.250	.030	20'	25.57	7'	8.61

FIT-300 IRRADIATED POLYOLEFIN TUBING
OUTER WALL SHRINKS . . . INNER WALL MELTS

Surface irradiated tubing has been developed to answer the need for easy-to-use, permanent encapsulation and jacketing material. Because only the outer wall of this tubing is irradiated, when heat is applied, only this outer wall shrinks. The inner wall, instead of shrinking, melts and the viscous plastic released by the heat, encapsulates the wire or component placed in the tubing. The pressure created by the outer wall shrinkage forces the melted plastic into every orifice, eliminating voids and resulting, when cooled, in a solid, homogenous molding. Alpha HG-1 hot air gun is recommended for heating tubing. However, excellent results may be achieved by use of an oven, hot liquids, soldering iron or even the flame of a match. **Ultimate Elongation:** 400% nominal. **Longitudinal Shrinkage:** 10% nominal. **Colors:** All colors available in black as well as one additional color as shown in table below.

Alpha No. FIT-	Black or Color	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lgths. Std. Pkg.	Pkg. Net	6" Lgths. Std. Pkg.	Pkg. Net
300-1/16"	Brown	.125	.023	.038	100'	$103.38	7'	$6.70
300-3/16"	Gray	.187	.060	.043	100'	126.42	6'	6.70
300-1/4"	White	.250	.080	.047	100'	157.29	5'	6.70
300-3/8"	Red	.375	.135	.050	100'	175.20	4'	6.70
300-1/2"	Blue	.500	.195	.055	20'	41.32	3'	6.70
300-3/4"	Yellow	.750	.313	.065	20'	63.79	2'	6.70
300-3/10"	Blue	.300	.050	.100	100'	359.25	2'	6.70

Alpha No. FIT-	Size, Inches Min. I.D.*	Recov. I.D.†	Wall Thk.	4 Ft. Lengths Std. Pkg.	Pkg. Net	6" Lengths Std. Pkg.	Pkg. Net
321-1/8"	.120	.040	.040	100'	$113.38	14'	$17.59
321-1/4"	.240	.080	.040	100'	172.69	10'	17.59
321-1/2"	.470	.160	.070	20'	45.30	7'	17.59
321-1"	.940	.320	.100	20'	92.46	4'	17.59
321-1 1/2"	1.57	.510	.100	20'	152.15	2.5'	17.59

*Before shrinking. †After shrinking. ‡Registered Du Pont trademark. §Registered Pennwalt trademark.

FIT-260 POLYOLEFIN TUBING
GREEN/YELLOW FOR GROUND IDENTIFICATION

Tubing formulated by dual-color extrusion to provide positive identification of ground wires or terminals in accordance with internationally accepted standards. Colors will not fade, smear, or rub off. Approved for use by the NFPA as a ground lead identification. **Ultimate Elongation:** 400%. **Longitudinal Shrinkage:** 5% nominal. **Water Absorption:** 0.1% max.

Alpha No.	Size, Inches			6 In. Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net
FIT-260-1/4"	.140	.062	.024	14'	$11.93
FIT-260-1/4"	.250	.110	.024	10'	11.93
FIT-260-3/8"	.344	.140	.026	8'	11.93
FIT-260-1/2"	.437	.185	.027	7'	11.93

FIT-350 IRRADIATED KYNAR TUBING

High-temperature, thin-wall tubing with excellent cut-through and abrasion resistance. Semi-rigid, polyvinylidene fluoride. The transparency permits easy inspection of covered components. **Ultimate Elongation:** 300%. **Longitudinal Shrinkage:** 5% nominal. **Water Absorption:** 0.5% max. **Color:** Clear.

Alpha No. FIT-	Dimensions, Inches			4 Ft. Lengths		6 In. Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net	Std. Pkg.	Pkg. Net
350-3/64"	.046	.023	.010	100'	$ 64.90	16'	$10.97
350-1/16"	.063	.031	.010	100'	70.65	14'	10.97
350-3/32"	.093	.046	.010	100'	82.90	12'	10.97
350-1/8"	.125	.062	.010	100'	90.46	10'	10.97
350-3/16"	.187	.093	.010	100'	140.75	8'	10.97
350-1/4"	.250	.125	.012	100'	177.23	6'	10.97
350-3/8"	.375	.187	.012	100'	232.98	4'	10.97
350-1/2"	.500	.250	.012	20'	69.29	2'	10.97
350-3/4"	.750	.375	.017	20'	127.42	1'	10.97
350-1"	1.000	.500	.019	20'	234.27	.5'	10.97

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-350-MS1	3/64"–3/16" (5 sizes)	5 per size (25 total)	$ 8.13
FIT-350-MS2	1/4"–1" (5 sizes)	5 per size (25 total)	46.69

FIT-400 TEFLON HEAT SHRINKABLE TUBING

Requires less heat for use with heat-sensitive components, solid-state devices, solder joints. **Ultimate Elongation:** 300%. **Longitudinal Shrinkage:** 10% nominal. **Color:** Clear.

Alpha No.	Size, AWG	Expanded Inside Dia.	Recovered Inside Dia.	Nom. Wall Thickness	Net/100' Pkg.
FIT-400-24	24	.032"	.027"	.008"	$ 54.11
FIT-400-22	22	.037"	.032"	.008"	56.61
FIT-400-20	20	.046"	.039"	.008"	59.04
FIT-400-18	18	.061"	.049"	.008"	61.54
FIT-400-16	16	.076"	.061"	.009"	68.89
FIT-400-14	14	.093"	.072"	.009"	71.37
FIT-400-12	12	.116"	.089"	.009"	73.82
FIT-400-10	10	.142"	.114"	.010"	79.93
FIT-400-9	9	.159"	.124"	.010"	109.24
FIT-400-8	8	.181"	.143"	.010"	114.40
FIT-400-7	7	.198"	.158"	.011"	135.57
FIT-400-6	6	.227"	.180"	.011"	142.26
FIT-400-5	5	.249"	.198"	.011"	148.84
FIT-400-4	4	.292"	.226"	.011"	157.25
FIT-400-3	3	.312"	.249"	.011"	183.07
FIT-400-2	2	.367"	.280"	.012"	196.07
FIT-400-1	1	.400"	.311"	.012"	209.88
FIT-400-0	0	.442"	.349"	.012"	233.24

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-400-MS1	24"–14" (6 sizes)	5 per size (30 total)	$ 7.42
FIT-400-MS2	12"–6" (6 sizes)	5 per size (30 total)	13.07
FIT-400-MS3	5"–0" (6 sizes)	3 per size (18 total)	13.52

FIT-500 SHRINKABLE TEFLON TUBING

FIT-500 shrinkable tubing forms a tight, flexible protective covering for wires and electronic components; it is recommended for use as a mechanical shield and for friction-proofing. Resists chemical and corrosive agents; is non-burning, non-corrosive. Electrical characteristics remain stable throughout electrical range. **Ultimate Elongation:** 600% max. **Longitudinal Shrinkage:** 10% nominal. **Water Absorption:** 0.01% max. **Color:** Natural.

Alpha No.	Size, Inches			2 Ft. Lengths	
	Min. I.D.*	Recov. I.D.†	Wall Thk.	Std. Pkg.	Pkg. Net
FIT-500-30	.030	.022	.009	100'	$121.90
FIT-500-28	.035	.025	.009	100'	119.73
FIT-500-26	.040	.028	.010	100'	117.54
FIT-500-24	.050	.032	.010	100'	94.03
FIT-500-22	.055	.037	.010	100'	95.56
FIT-500-20	.060	.044	.012	100'	96.84
FIT-500-18	.076	.052	.012	100'	102.83
FIT-500-16	.093	.063	.012	100'	108.13
FIT-500-14	.121	.078	.012	100'	111.66
FIT-500-12	.153	.096	.012	50'	61.54
FIT-500-10	.191	.116	.012	50'	71.08
FIT-500-8	.240	.144	.015	50'	122.83
FIT-500-6	.302	.178	.015	20'	56.85
FIT-500-4	.370	.224	.015	20'	67.68
FIT-500-2	.430	.278	.015	20'	81.14
FIT-500-0	.470	.347	.015	20'	98.02

*Before shrinking. †After shrinking.

PACKAGED ASSORTMENTS IN 6" LENGTHS

Alpha No.	Size Range	No. Lengths/Box	Net/Box
FIT-500-MS1	30"–20" (6 sizes)	5 per size (30 total)	$ 9.94
FIT-500-MS2	18"–10" (5 sizes)	5 per size (25 total)	8.05
FIT-500-MS3	8"–0" (5 sizes)	3 per size (15 total)	16.21

FIT-600 IRRADIATED NEOPRENE TUBING

A highly flexible, irradiated neoprene tubing with outstanding abrasion resistance properties. Widely used as a cable jacketing and harness material where maximum abrasion protection is required. **Ultimate Elongation:** 225%. **Longitudinal Shrinkage:** 6% nominal. **Color:** Black.

Alpha No.	Size	Min. I.D. Before Shrinkage	Recov. I.D. After Shrinkage	Nom. Wall Thk.	Net per Pkg. 25'	Net per Pkg. 100'
FIT-600-1/4	1/4"	.250"	.143"	.035"	$ 60.35	$236.84
FIT-600-3/16	3/16"	.375"	.214"	.040"	72.22	283.20
FIT-600-1/2	1/2"	.500"	.286"	.048"	80.29	314.93
FIT-600-5/16	5/16"	.625"	.375"	.052"	90.25	353.98
FIT-600-3/4	3/4"	.750"	.428"	.057"	100.38	393.78
FIT-600-7/8	7/8"	.875"	.500"	.065"	112.23	440.16
FIT-600-1	1"	1.00"	.570"	.070"	122.45	480.23
FIT-600-1 1/4	1 1/4"	1.25"	.714"	.087"	169.72	665.90
FIT-600-1 1/2	1 1/2"	1.50"	.857"	.095"	198.34	777.77
FIT-600-1 3/4	1 3/4"	1.75"	1.00"	.107"	242.47	950.88
FIT-600-2	2"	2.00"	1.14"	.110"	282.04	1106.08
FIT-600-3	3"	3.00"	1.71"	.125"	430.52	852.50*

*Pkg. of 50 Ft.

HEAT GUNS



HG-1



FG-2

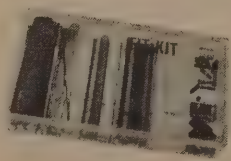
The recommended tool for shrinking FIT tubing. A flameless, quiet-operating hot air torch that may be used for portable operations or secured permanently to a bench by means of a mounting bracket. Heavy-duty construction. Adjustable turbo fan air intake to control temperature and a double jacketed housing of diecast aluminum. With neoprene-jacketed 3-wire cord and plug and adapter for 2-prong receptacle. Motor for 115 VAC/DC. Length, 11" overall.

Alpha No. HG-1 Heat Gun—Temp. up to 260° C. Net . **$70.68**

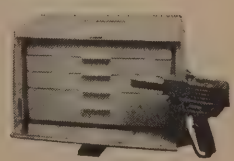
Alpha No. HG-2 Heat Gun—Temp., 750°–400° C. Net. **$84.68**

Alpha No. FG-2 Heat Gun—Portable unit for temperatures from 260° C to 427° C depending upon the nozzle used. Complete with three nozzles and two tubing reflectors. Net Each..... **$79.43**

FIT-KITS—IDEAL R & D, OR PROTOTYPE SAMPLERS



FIT-KIT-1



FIT-KIT-4

FIT-KIT-1—Contains more than 70 6" lengths of 7 widely used types of FIT Tubing in a variety of colors. Compartmented clear plastic box allows easy storage and quick identification. Includes lengths of FIT-105, FIT-221, FIT-295, FIT-300, FIT-350, FIT CAPS AND FIT MARKERS. Size, 11" w. x 6½" d. x 2" h. Net Each..... **$34.59**

FIT-KIT-2—Contains all items in FIT-KIT-1, plus 6" lengths of FIT-321, FIT-400, FIT-500, FIT-600, FIT-700, and 1" cut pieces of FIT-750. Kit is complete engineering, prototype, or laboratory inventory of all Alpha FIT-Tubing. Consists of two 11" w. x 6½" d. x 2" h. compartmented clear plastic boxes. Net Each..... **$62.30**

FIT-KIT-4—Contains over 200 6" lengths of 12 types of FIT tubing, 400 FIT Markers, 39 Fit Caps, and FG-2 heat gun with accessories all in high impact plastic carrying case. Net Each..... **$291.48**

FIT-KIT-5—Same as FIT-KIT-4, except without FG-2 heat gun. Net Each..... **$204.21**

ALPHA POLYVINYLCHLORIDE LOC-TRAC ZIPPER TUBING

All-purpose, easy-to-use jacketing material; zips on in seconds without disconnecting or disturbing connections. Will not pop open even when bent into a U-shape. Does not need sealant nor adhesive. Track thickness when closed, .150″, dielectric strength, 759 V/mil; tensile strength, 3810 psi; ultimate elongation, 255%; operating temperature, −86 to +106° C; fungus proof; self-extinguishing. One metal slider with every 25 feet of tubing; additional sliders, AB-395, may be ordered at 10c each. **ZIP-41 Type:** MIL-I-631D, Grade C materials. All-purpose type. Wall thickness, .020″. Clear or black. **ZIP-41M Type:** MIL-I-631D, Grade C materials. Wall thickness .040″ for heavy-duty use. Clear or black. **ZIP-60 Type:** Aluminum foil laminated between two sheets of polyvinyl. Wall thickness .040″. Silver-gray color.

Alpha No.	Net 100′*	Alpha No.	Net 100′*	Alpha No.	Net 25′	Net 50′	Net 100′*
ZIP-41M-½″	$168.01	ZIP-60-½″	$204.14	ZIP-41-½″	$32.85	$64.74	$127.38
ZIP-41M-⅝″	179.33	ZIP-60-⅝″	218.36	ZIP-41-⅝″	34.09	67.14	132.26
ZIP-41M-¾″	190.71	ZIP-60-¾″	232.60	ZIP-41-¾″	35.36	69.69	137.29
ZIP-41M-⅞″	201.96	ZIP-60-⅞″	246.84	ZIP-41-⅞″	36.62	72.15	142.15
ZIP-41M-1″	215.23	ZIP-60-1″	263.46	ZIP-41-1″	38.05	74.99	147.84
ZIP-41M-1⅛″	226.72	ZIP-60-1⅛″	277.87	ZIP-41-1⅛″	39.34	77.52	152.85
ZIP-41M-1¼″	232.14	ZIP-60-1¼″	284.89	ZIP-41-1¼″	39.85	78.63	155.08
ZIP-41M-1½″	254.83	ZIP-60-1½″	313.37	ZIP-41-1½″	42.33	83.57	164.95
ZIP-41M-1¾″	277.38	ZIP-60-1¾″	327.61	ZIP-41-1¾″	44.83	88.52	174.84
ZIP-41M-2″	299.98	ZIP-60-2″	370.31	ZIP-41-2″	47.29	93.43	184.53

Write for prices on larger sizes. *Larger put-ups available.

ALPHA POLYVINYLCHLORIDE ZIPPER TUBING

All-purpose, easy-to-use jacketing material; zips on in seconds without disconnecting or disturbing connection. Track thickness (when closed), .095″; dielectric strength, 759 V/mil; tensile strength, 3,810 psi; ultimate elongation, 255%; operating temperature, upper limit, +106° C; lower limit, −86° C; fungus proof; self extinguishing; lateral pull strength (permanently sealed) 59.8 lb. in. One metal slider supplied with every 25 ft.; additional sliders, AB-295, may be ordered at 10c each. **ZIP-31M Type:** MIL-I-631D, Grade C materials. Temp., −20° C to +105° C. Wall thickness, .040″; for heavy duty construction. Clear or black. **ZIP-50 Type:** Aluminum foil laminated between two sheets of polyvinyl. Wall thickness, .040″. Silver-gray color. **ZIP-31 Type:** MIL-I-631D, Grade C materials. All-purpose type. Wall thickness .020″. Temp., −20° C to +105° C. Clear or black.

Alpha No.	Net 100′*	Alpha No.	Net 100′*	Alpha No.	Net 25′	Net 50′	Net 100′*
ZIP-31M-¼″*	$232.14	ZIP-50-¼″*	$159.09	ZIP-31-¼″*	$28.92	$56.93	$112.00
ZIP-31M-⅜″*	139.77	ZIP-50-⅜″*	168.54	ZIP-31-⅜″*	29.69	58.49	115.13
ZIP-31M-½″	168.01	ZIP-50-½″	204.14	ZIP-31-½″	32.85	64.74	127.38
ZIP-31M-⅝″	179.33	ZIP-50-⅝″	218.36	ZIP-31-⅝″	34.09	67.14	132.26
ZIP-31M-¾″	190.71	ZIP-50-¾″	232.60	ZIP-31-¾″	35.36	69.69	137.29
ZIP-31M-⅞″	201.96	ZIP-50-⅞″	246.84	ZIP-31-⅞″	36.62	72.15	142.15
ZIP-31M-1″	215.23	ZIP-50-1″	263.46	ZIP-31-1″	38.05	72.15	147.84
ZIP-31M-1⅛″	226.74	ZIP-50-1⅛″	277.87	ZIP-31-1⅛″	39.34	77.52	152.85
ZIP-31M-1¼″	232.14	ZIP-50-1¼″	284.89	ZIP-31-1¼″	39.85	78.63	155.08
ZIP-31M-1½″	254.83	ZIP-50-1½″	313.37	ZIP-31-1½″	42.33	83.57	164.95
ZIP-31M-1¾″	277.38	ZIP-50-1¾″	327.61	ZIP-31-1¾″	44.83	88.52	174.84
ZIP-31M-2″	299.98	ZIP-50-2″	370.31	ZIP-31-2″	47.29	93.43	184.53

*Write for prices on larger put-ups. *Cannot be closed with slider; must be done manually.

EXTRUDED TEFLON TUBING IN FRACTIONAL SIZES

An extruded Teflon tubing with the same specifications as above, but available only in fractional sizes. Stock color is natural. Packaged as a 50′ coil of random lengths.

Alpha No. & Size	Nom. I.D. (in.)	Wall Thickness (in.)	Net Each 50′
TFT-300-⅛″	.125	.020	$ 56.25
TFT-300-3⁄16″	.192	.020	76.72
TFT-300-¼″	.255	.020	94.59
TFT-300-5⁄16″	.321	.020	122.76
TFT-300-⅜″	.387	.025	181.57
TFT-300-7⁄16″	.451	.025	204.59
TFT-300-½″	.515	.025	232.72
TFT-300-⅝″	.643	.025	322.23
TFT-300-¾″	.772	.030	442.41
TFT-300-⅞″	.902	.035	537.02
TFT-300-1″	1.030	.035	667.45
TFT-300-1¼″	1.287	.040	969.21
TFT-300-1½″	1.550	.040	1153.33

TINNED COPPER FLAT BRAID TO MIL SPEC QQ-W-343/5, ASTM-B-33

For shielding insulated wire and cable, bonding and ground straps. For applications requiring extreme flexibility (pigtails, component leads, connecting moving parts, etc). Very fine, soft annealed tinned copper wires, braided and rolled flat. Strand size, 36, except Nos. 1239 thru 1242/4 which are 30 AWG. Also available in spool of 500′ except: 1240–1242/4; prices on request.

Alpha No.	Width In.	Net, Spool 1000′	Net, Spool 100′	Alpha No.	Width In.	Net per Spool 1000′	Net per Spool 100′
1221	.025	$151.95	$18.60	1233	⅝	$ 794.08	$ 83.97
1222	1⁄32	162.54	19.95	1234	¾	1827.07	189.01
1223	3⁄64	173.46	21.13	1235	1	1959.97	202.30
1224	1⁄32	203.70	23.47	1239	1⅜	2230.74	229.39
1229	1⁄8	227.56	26.47	1240	1½	.....	321.40
1230	3⁄16	253.30	28.83	1241	1¾	.....	642.84
1231	¼	353.52	39.12	1242	2	.....	806.79
1232	⅜	582.91	62.62	1242/4	3	.....	1556.52
1233/2	½	751.62	79.38				

EXTRA LARGE TINNED COPPER TUBULAR BRAID

Tubular braids manufactured to standards of QQ-B-575 although theses sizes are notlisted in the specification. Each strand 30 AWG.

Alpha No.	Nom. I.D.	Net, Spool 100′	Net, Spool 50′	Alpha No.	Nom. I.D.	Net, Spool 100′	Net, Spool 50′
2177	7⁄8″	$292.09	$151.78	2180	1¼″	$387.67	$197.10
2178	1″	329.65	167.68	2181	1⅜″	450.16	228.15
2179	1⅛″	345.39	178.72	2182	1½″	484.03	244.65

SPIRAL WRAP TUBING

The SW Series tubing simplifies wire harnessing, cabling, and bundling work. The tubing clings tightly to the wire or cable being bundled, yet is flexible and simple to apply. Available in polyethylene, meeting MIL-I-631D; flame-resistant polyethylene meeting MIL-E-500F; nylon, meeting MIL-M-20693A; Teflon meeting MIL-I-22129C; and ultraviolet-resistant polyethylene for use outdoors.

Alpha No.	Material	Max. Dia. Wire/Cable (in.)	Nom. Wall Thickness (in.)	Pitch (in.)	Color	Net 25′*
SW-1		½	.031	.250		$ 1.4
SW-2		2	.046	.375		2.6
SW-3	Poly-	3	.052	.437	Natural	4.1
SW-4	ethylene	4	.060	.562		5.0
SW-5		5	.065	.750		9.0
SW-6		6	.095	1.000		20.4
SW-10		½	.031	.250		3.0
SW-11	Flame	2	.046	.375		6.7
SW-12	Resistant	3	.052	.437	White	11.9
SW-13	Poly-	4	.060	.562		14.6
SW-14	ethylene	5	.065	.750		25.2
SW-20		½	.016	.250		3.8
SW-21	Nylon	2	.025	.375	Natural	6.8
SW-22		3	.035	.437		15.3
SW-23		4	.035	.562		19.8
SW-30		½	.030	.250		32.2
SW-31		2	.030	.375		55.9
SW-32	Teflon	2½	.030	.437	Natural	90.3
SW-33		3	.030	.562		121.6
SW-34		3½	.030	.750		210.8
SW-35		4	.040	1.000		334.2
SW-40		½	.030	.250		1.4
SW-41	Ultra-	2	.045	.375		3.0
SW-42	violet	3	.050	.437		4.3
SW-43	Resistant	4	.060	.562	Black	5.7
SW-44	Poly-	5	.065	.750		9.9
SW-45	ethylene	6	.095	1.000		22.6

*Larger put-ups available.

TINNED COPPER TUBULAR BRAID TO MIL SPEC QQ-B-575

Maximum shielding against electrostatic interference for wires, cables, etc. Woven, tinned copper braid fully round per MIL Spec QQ-B-575. Each strand is soft, drawn, tinned copper wire 36 AWG except as noted. Self-supporting to maintain the round shape. Shielding coverage 95%.

Alpha No.	Nom. I.D.	Net, Spool 250′	Net, Spool 100′	Alpha No.	Nom. I.D.	Net, Spool 100′
2160	1⁄32″	$ 30.55	$14.37	2171	¼″	$116.22
2162	1⁄16″	63.15	30.33	2171/1†	9⁄32″	121.23
2163	5⁄64″	74.71	35.20	2172	⅜″	119.77
2164	7⁄64″	100.53	46.44	2173†	7⁄16″	197.59
2166	⅛″	108.60	48.48	2174	½″	164.16
2167	5⁄32″	194.50	80.22	2175†	9⁄16″	303.18
2168	11⁄64″	139.90	61.71	2175/1†	21⁄32″	464.71
2170*	13⁄64″	.....	85.90	2176	25⁄32″	222.24

*Braid 34 AWG. †Braid 30 AWG.

INSULATION TUBING, LACING TAPE, AND BUS BAR

ALPHA POLYVINYLCHLORIDE PVC-105 MIL-I-631D PLASTIC TUBING

All-purpose, economical tubing is compounded with first quality, non-migratory resinous type plasticizers; designed to counteract chemical and environmental degradation. Rated for temperatures as high as 105° C with high dielectric strength. No loss in tensile strength or flexibility; resistant to abrasion. Retains its flexibility which permits it to cling to and protect irregular shapes. Meets MIL-I-631D, Type F, Form U, Grade C, Class I, Category 1.

Dielectric Strength: 800 V/mil. **Tensile Strength:** 2700–3300 psi. **Min. Volume Resis.:** 10^{11} ohm/cm. **Low Temperature Flexibility:** −20° C. **Specify Color:** #24 thru #2: Clear, black, white, yellow, red or green; #1 thru 1": Clear, black or white; 1⅛" thru 2½": Clear or black. **To Order:** Add gauge size to prefix **PVC-105/**, e.g., **PVC-105/24.**

Ga. Size	Nom. I.D., In.	Net per Spool of 100′	Net per Spool of 500′	Net per Spool of 1000′
24	.022	$5.41	.....	$31.01
22	.027	5.41	.....	31.01
20	.034	5.87	.....	33.68
19	.038	5.87	.....	33.68
18	.042	6.35	.....	36.45
17	.047	6.35	.....	36.45
16	.053	6.78	.....	39.12
15	.059	6.78	.....	39.12
14	.066	5.93	$20.64	.....
13	.076	5.93	20.64	.....
12	.085	6.32	22.01	.....
11	.095	6.32	22.01	.....
10	.106	7.36	25.81	.....
9	.118	8.88	31.01	.....

Ga. Size	Nom. I.D., In.	Net Price per Put-Up* Coil of 100′	Coil of 250′	Spool of 500′
8	.133	$ 9.61	.....	$33.68
7	.148	10.34	.....	36.45
6	.166	11.07	.....	38.85
5	.186	11.83	.....	41.56
4	.208	12.59	$22.01	.....
3	.234	13.32	23.38	.....
2	.263	14.80	25.96	.....
1	.294	16.63	29.21	.....
0	.330	18.54	32.53	.....
5/16"	.312	21.83	38.24	.....
3/8"	.375	25.90	45.42	.....
7/16"	.438	20.76	.....	.....
1/2"	.500	23.29	.....	.....

Ga. Size	Nom. I.D. In.	Net Price per Put-Up* Coil of 50′	Coil of 100′
9/16"	.562	.....	$30.86
5/8"	.625	.....	33.68
3/4"	.750	$ 30.10	.....
7/8"	.875	34.29	.....
1"	1.000	47.15	.....
1 1/8"	1.125	62.90	.....
1 1/4"	1.250	66.67	.....
1 3/8"	1.375	71.74	.....
1 1/2"	1.500	89.19	.....
1 3/4"	1.750	124.09	.....
2"	2.000	157.35	.....
2 1/4"	2.250	190.03	.....
2 1/2"	2.500	205.47	.....

*Larger put-ups available.

EXTRUDED TEFLON TUBING

Teflon tubing is completely inert and has zero moisture absorption. The tubing is rated for continuous operation from −65° C to +260° C and retains toughness and flexibility throughout this range. **Dielectric Strength:** 1400V/mil. **Dielectric Constant:** 2.2. Conforms to MIL-I-22129C, AMS 3651B, 3655, 3653, and Fed. Spec. P-403A.

AWG Wire Size	Nom. I.D. (In.)	Wall Thickness TFT-200/	Wall Thickness TFT-250/	Net Each TFT-200/ 100′*†^	Net Each TFT-250/ 100′*■
30	.012	.009	.....	$ 15.28	.....
28	.015	.009	.....	13.43	.....
26	.018	.010	.....	12.05	.....
24	.022	.010	.012	13.20	$ 16.17
22	.027	.010	.012	15.49	17.96
20	.034	.012	.016	18.74	24.67
19	.038	.012	.016	20.17	26.86
18	.042	.012	.016	21.89	29.01
17	.047	.012	.016	23.95	31.66
16	.053	.012	.016	26.18	33.55
15	.059	.012	.016	26.86	34.98
14	.066	.012	.016	28.79	37.74
13	.076	.012	.016	32.58	42.01
12	.085	.012	.016	35.04	45.35
11	.095	.012	.016	38.80	50.38
10	.106	.012	.016	41.93	55.19
9	.118	.015	.020	59.48	79.05
8	.133	.015	.020	65.73	86.72
7	.148	.015	.020	71.85	93.52
6	.166	.015	.020	79.96	101.00
5	.186	.015	.020	89.95	111.26
4	.208	.015	.020	98.45	120.95
3	.234	.015	.020	109.48	138.38
2	.263	.015	.020	121.85	151.92
1	.294	.015	.020	133.75	169.04
0	.330	.015	.020	150.56	190.25

To complete the order number, add wire size to end of type number. *Other put-ups and discounts upon request. †Random lengths packed in 100′ coil. ■Stock color is natural only. ^Stock colors are natural and black.

FLAT BRAIDED TAPE

Nom. Thick.: .014" (LC-134 is .010", LC-162 is .012"). **Nom. Width:** 3/32" (LC-134 is 1/16"). **Tensile Strength:** 50 lbs. (LC-134 is 30 lbs.). **Material:** Nylon (LC-162 is Dacron). **Finish:** Per MIL-T-713A except: LC-132 is synthetic rubber-like resin, melting point over 190° F; LC-140, non-slip fungistatic synthetic rubber; LC-143, "wax free" thermoplastic synthetic resin, melting point over 350° F. L-C136 meets MIL-T-713A, Type P, Class II.

Alpha No.	Color	Standard Put-Up	Net per Put-Up
LC-113 (Nylon)	White	½ lb. on spool	$10.52
	Black	½ lb. on spool	12.84
LC-114 (Nylon)	White	½ lb. on spool	10.52
	Black	½ lb. on spool	12.84
LC-115 (Nylon)	White	½ lb. on spool	10.52
	Black	½ lb. on spool	12.84
LC-132 (Nylon)	White	500 yds. on tube	19.02
	Black	500 yds. on tube	21.30
LC-134 (Nylon)	White	500 yds. on spool	14.14
	Black	500 yds. on spool	20.16
LC-136 (Nylon)	White	500 yds. on spool	19.48
	Black	500 yds. on spool	22.66
LC-140 (Nylon)	White	500 yds. on spool	18.12
	Black	500 yds. on spool	20.40
LC-143 (Nylon)	White	500 yds. on spool	18.12
	Black	500 yds. on spool	20.40
LC-162 (Dacron)	White	500 yds. on spool	18.12
	Black	500 yds. on spool	20.40

BRAIDED FIBERGLASS SLEEVING

This series of fiberglass sleeving is the toughest and most pliable of insulating materials and is formulated to provide the maximum in electrical characteristics, chemical resistance, heat stability and abrasion resistance. Tubing is constructed from an inorganic, woven fiberglass sleeving. Ends will not fray when cut. **Type PIF-240:** plain sleeving not coated, usable to 240° C.; **Type PIF-150:** impregnated with acrylic resin, usable to 155° C, conforms to MIL-I-3190C; **Type PIF-200:** coated with silicone rubber, usable to 200° C., conforms to MIL-I-3190C; **Type PIF-130:** impregnated with vinyl plastic, usable to 130° C, conforms to MIL-I-3190B. Type PIF-130 is black; others are natural.

AWG Wire Size or Dia.	Nom. I.D. (In.)	Net Each* PIF-130- 100′	PIF-150- 100′	PIF-200- 100′	PIF-240- 100′
24	.022	$ 10.72	$ 12.61	$ 33.13	$ 6.94
22	.027	10.72	13.44	33.32	6.94
20	.034	11.15	13.89	33.98	7.77
18	.042	11.60	14.10	35.70	8.16
17	.047	.....	14.10	36.82	8.16
16	.053	12.00	14.59	37.46	8.35
15	.059	.....	15.06	37.84	8.81
14	.066	13.59	15.27	39.58	8.81
13	.076	.....	16.25	40.67	8.94
12	.085	13.59	16.56	42.83	9.20
11	.095	.....	17.75	44.77	9.79
10	.106	14.99	18.45	47.16	10.05
9	.118	.....	18.99	49.06	10.81
8	.133	16.63	20.94	52.77	11.47
7	.148	.....	21.92	56.44	12.55
6	.166	19.83	23.30	60.37	13.38
5	.186	.....	25.29	66.41	15.01
4	.208	24.15	30.13	74.03	16.31
3	.234	.....	33.04	83.10	18.60
2	.263	30.24	37.86	98.24	20.92
1	.294	.....	43.09	112.53	23.64
0	.338	40.52	50.82	131.58	27.58
3/8"	.387	51.50	67.36	172.52	35.36
7/16"	.450	67.93	88.74	227.63	46.61
1/2"	.512	85.79	116.39	265.77	60.65
5/8"	.640	103.19	140.75	312.25	72.97
3/4"	.768	126.74	171.14	.....	89.70
7/8"	.893	155.04	210.51	.....	109.34
1"	1.018	187.13	249.23	.....	133.21

To complete the order number, add wire size or diameter at end of type number.
*Other put-ups and discounts are available upon request.

BUS BAR TINNED COPPER

Solid wire for winding of coils, antennas, point-to-point wiring, bus-bar, component leads, ground wire. Pure electrolytic soft, drawn, solid copper annealed and tinned for quick soldering, MIL-W-3861 Type S, QQ-W-343 Type S and ASTM-B-33 specifications.

Alpha No	Cond. Size	Circ. Mil Area	Nom. O.D.	Net per Spool 1000′	Net per Spool 100′
299/3	30AWG	100.5	.010"	$ 12.60	$ 3.88
299/2	28AWG	159.8	.013"	13.38	3.88
299/1	26AWG	254.1	.016"	15.25	3.99
299	24AWG	404.0	.020"	16.62	4.10
298	22AWG	642.4	.025"	20.34	4.30
297	20AWG	1022	.033"	27.85	5.11
296	18AWG	1642	.040"	40.21	6.64
295	16AWG	2583	.051"	63.16	9.19
286	14AWG	4107	.065"	93.24	13.89
289	12AWG	6530	.082"	139.08	20.75
292	10AWG	10380	.103"	327.34	43.39
292/8	8AWG	16510	.129"	508.54	69.03
292/6	6AWG	26250	.162"	818.44	100.00

HEADER CONNECTORS

Mate with female socket connectors for use as disconnect. Headers mount on printed circuit board. Contacts are phosphor bronze with nickel and gold plating. All header styles also available with locking tabs.

Alpha Number	No. of Pins	Net Each, Lots of 1-99	100-499	500-999	1000-2999	3000-4999
RIGHT ANGLE HEADERS WITH .090" SOLDER TERMINALS						
FCC-151-10	10	$1.76	$1.32	$1.19	$1.10	$1.06
FCC-151-20	20	2.29	1.72	1.54	1.43	1.38
FCC-151-26	26	2.84	2.13	1.91	1.77	1.71
FCC-151-34	34	3.71	2.79	2.51	2.32	2.23
FCC-151-40	40	4.25	3.19	2.87	2.65	2.55
FCC-151-50	50	5.15	3.86	3.48	3.22	3.09
RIGHT ANGLE HEADERS WITH .155" SOLDER TERMINALS						
FCC-155-10	10	$1.87	$1.41	$1.27	$1.17	$1.12
FCC-155-20	20	2.29	1.72	1.54	1.43	1.38
FCC-155-26	26	3.08	2.31	2.08	1.93	1.85
FCC-155-34	34	3.96	2.97	2.67	2.48	2.38
FCC-155-40	40	4.53	3.40	3.06	2.84	2.72
FCC-155-50	50	5.50	4.13	3.72	3.44	3.30
RIGHT ANGLE HEADERS WITH WIRE WRAP TERMINALS						
FCC-152-10	10	$2.46	$1.85	$1.66	$1.54	$1.47
FCC-152-20	20	4.55	3.42	3.07	2.85	2.73
FCC-152-26	26	5.57	4.18	3.76	3.48	3.34
FCC-152-34	34	6.60	4.95	4.46	4.13	3.96
FCC-152-40	40	7.50	5.63	5.06	4.69	4.50
FCC-152-50	50	8.80	6.60	5.94	5.50	5.28
RIGHT ANGLE HEADERS WITH EJECTION LATCHES AND .090" SOLDER TERMINALS						
FCC-156-10	10	$2.16	$1.62	$1.45	$1.35	$1.30
FCC-156-20	20	2.73	2.05	1.84	1.71	1.64
FCC-156-26	26	3.28	2.46	2.21	2.05	1.97
FCC-156-34	34	4.16	3.12	2.81	2.60	2.50
FCC-156-40	40	4.71	3.53	3.18	2.95	2.83
FCC-156-50	50	5.61	4.21	3.78	3.51	3.37
RIGHT ANGLE HEADERS WITH EJECTION LATCHES AND .155" SOLDER TERMINALS						
FCC-158-10	10	$2.29	$1.72	$1.54	$1.43	$1.38
FCC-158-20	20	2.93	2.20	1.98	1.83	1.76
FCC-158-26	26	3.52	2.64	2.38	2.20	2.11
FCC-158-34	34	4.38	3.29	2.96	2.74	2.63
FCC-158-40	40	4.97	3.73	3.36	3.11	2.98
FCC-158-50	50	6.09	4.58	4.11	3.81	3.65
RIGHT ANGLE HEADERS WITH EJECTION LATCHES AND WIRE WRAP TERMINALS						
FCC-159-10	10	$2.86	$2.15	$1.94	$1.79	$1.72
FCC-159-20	20	4.99	3.75	3.37	3.12	2.99
FCC-159-26	26	6.01	4.51	4.06	3.75	3.61
FCC-159-34	34	7.02	5.27	4.74	4.39	4.21
FCC-159-40	40	7.96	5.97	5.38	4.98	4.77
FCC-159-50	50	9.26	6.95	6.25	5.79	5.56

Alpha Number	No. of Pins	Net Each, Lots of 1-99	100-499	500-999	1000-2999	3000-4999
STRAIGHT HEADERS WITH .090" SOLDER TERMINALS						
FCC-161-10	10	$1.80	$1.35	$1.22	$1.13	$1.08
FCC-161-20	20	2.33	1.75	1.57	1.46	1.40
FCC-161-26	26	2.88	2.17	1.95	1.80	1.73
FCC-161-34	34	3.76	2.83	2.54	2.35	2.26
FCC-161-40	40	4.33	3.26	2.93	2.71	2.60
FCC-161-50	50	5.28	3.96	3.56	3.30	3.17
STRAIGHT HEADERS WITH .155" SOLDER TERMINALS						
FCC-165-10	10	$1.91	$1.44	$1.29	$1.20	$1.14
FCC-165-20	20	2.57	1.94	1.74	1.61	1.54
FCC-165-26	26	3.21	2.41	2.17	2.01	1.93
FCC-165-34	34	4.18	3.14	2.83	2.62	2.51
FCC-165-40	40	4.80	3.60	3.23	3.00	2.80
FCC-165-50	50	6.36	4.77	4.29	3.97	3.82
STRAIGHT HEADERS WITH WIRE WRAP TERMINALS						
FCC-162-10	10	$2.46	$1.85	$1.66	$1.54	$1.47
FCC-162-20	20	4.55	3.42	3.07	2.85	2.73
FCC-162-26	26	5.57	4.18	3.76	3.48	3.34
FCC-162-34	34	6.60	4.95	4.46	4.13	3.96
FCC-162-40	40	7.50	5.63	5.06	4.69	4.50
FCC-162-50	50	8.80	6.60	5.94	5.50	5.28
STRAIGHT HEADERS WITH EJECTION LATCHES AND .090" SOLDER TERMINALS						
FCC-166-10	10	$2.20	$1.65	$1.49	$1.38	$1.32
FCC-166-20	20	2.77	2.08	1.87	1.74	1.66
FCC-166-26	26	3.32	2.50	2.24	2.08	1.99
FCC-166-34	34	4.20	3.16	2.84	2.63	2.52
FCC-166-40	40	4.80	3.60	3.23	3.00	2.88
FCC-166-50	50	5.74	4.31	3.87	3.59	3.44
STRAIGHT HEADERS WITH EJECTION LATCHES AND .155" SOLDER TERMINALS						
FCC-168-10	10	$2.33	$1.75	$1.57	$1.46	$1.40
FCC-168-20	20	3.01	2.27	2.04	1.88	1.80
FCC-168-26	26	3.65	2.74	2.46	2.29	2.19
FCC-168-34	34	4.60	3.45	3.10	2.87	2.76
FCC-168-40	40	5.24	3.93	3.53	3.28	3.15
FCC-168-50	50	6.36	4.77	4.29	3.97	3.82
STRAIGHT HEADERS WITH EJECTION LATCHES AND WIRE WRAP TERMINALS						
FCC-169-10	10	$2.86	$2.15	$1.94	$1.79	$1.72
FCC-169-20	20	4.99	3.75	3.37	3.12	2.99
FCC-169-26	26	6.01	4.51	4.06	3.75	3.61
FCC-169-34	34	7.02	5.27	4.74	4.39	4.21
FCC-169-40	40	7.96	5.97	5.38	4.98	4.77
FCC-169-50	50	9.26	6.95	6.25	5.79	5.56

ASSEMBLY TOOLS

Alpha has designed bench and hand tools to assemble the flat cable and the connectors. They are designed to be easy to use, to reduce set-up time and to improve through-put and reduce costs.

Alpha No. FCT-60—Adapts other bench presses to the Alpha system without modification. Net Each..... **$125.00**

Alpha No. FCT-30 Hand Tool—Flts DIP connectors. Net Each..... **$24.95**

FLAT CABLE AND CONNECTOR KITS

Alpha FCT-80 Designer Kit—Contains over 300 connectors and accessories, 100 feet of 100 conductor cable and a bench press for assembly. Case is polypropylene and has provisions for locking. Net Each..... **$1446.50**

Alpha FCT-81 DIP Kit—Contains 14, 16, and 24 pin DIPs; strain relief clips; cables; and hand tools in a clear plastic box. Net Each..... **$137.50**



FCT-80 Kit

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.


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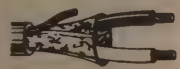

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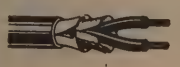

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E


F


G


H


J

MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Great abrasion and impact resistance; extra limp so cable lies flat. **No. 8410:** 3 strands copper, 4 strands copper covered steel, cellulose yarn braid, rubber insul., rayon braid, tinned copper braid shield, cellulose yarn wrap, black rubber jacket. **No. 9396:** Same, except PVC insul., tinned copper serve shield, and gray PVC jacket, **No. 9399:** Bare cadmium copper conductor, cotton serve, rubber insul., cabled with fillers, conductive textile wrap shield, tinned copper braid shield, cotton serve, brown rubber jacket. **Nos. 9394 and 9395:** Tinned copper conductor, conductive textile wrap shield, tinned copper serve shield, black neoprene jacket. **No. 9397:** Tinned copper conductor, vinyl insul., conductors cabled with fillers, bare copper spiral shield, matte white or matte gray jacket. **No. 9398:** Same, except color code white, green, brown. **No. 9211:** Tinned copper stranded conductors, polyethylene insul., cabled with conductive tape, Beldfoil® shield with stranded #22 AWG tinned copper drain wire. **Nos. 8406 and 8413:** Tinned cadmium bronze, cotton serve, rubber insul., cabled with fillers, 100% coverage conductive textile wrap shield, tinned copper braid shield, cotton serve, black rubber jacket. **All Others:** Tinned copper, cotton wrap, rubber insul., conductors cabled, rayon braid, tinned copper braid shield, cotton wrap, black rubber jacket. Conductor Color Coding: **1,** white; **2,** black; **3,** red; **4,** green; **5,** blue; **6,** brown; **7,** yellow; **8,** orange.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of 15′	25′	50′	100′	250′	500′	1000′
8410	A	1	25 (7 x 33)	33	.245″	....	$12.60	$22.05	$40.25	$92.30	152.05*	.....
9394	A	1	20 (26 x 34)	55	.190″	....	.....	.....	.....	.....	108.40*	178.65*
9395	F	1	18 (41 x 34)	55	.235″	....	.....	.....	.....	.....	125.00*	214.95*
9396	A	1	25 (7 x 33)	75	.100″	....	.....	.....	18.70	33.05	.....	.....
8413†	B	2	24 (45 x 40)	55	.190″	$8.25	12.75	23.50	43.90	100.95	166.30*	.....
8406†	B	3	24 (45 x 40)	60	.223″	....	.....	.....	55.55	.....	217.65*	.....
8412	C	2	20 (26 x 34)	55	.263″	....	13.50	24.50	46.25	104.95	172.95*	345.90*
8402•	C	2	20 (26 x 34)	55	.263″	....	.....	.....	48.05	113.95	187.80*	375.60*
8428ƒ	C	2	18 (41 x 34)	60	.290″	....	.....	.....	60.55	.....	228.70*	457.35
8408†•	C	2	16 (65 x 34)	55	.385″	....	.....	.....	82.90	.....	328.20	.....
9399	B	2	24 (25 x 40)	55	.195″	....	.....	.....	46.60	.....	173.65	347.25
9397	B	2	24 (105 x 44)	40	.185″	....	.....	.....	35.80	.....	125.00	217.20
9211	E	2	25 (7 x 33)	..	.247″	....	.....	.....	.....	.....	83.55	137.70*
8423	C	3	20 (26 x 34)	60	.272″	....	.....	28.05	50.80	118.40	195.15	390.30
9398	D	3	24 (105 x 44)	70	.186″	....	.....	.....	41.80	.....	126.85	253.65
8424	C	4	20 (26 x 34)	60	.290″	....	.....	30.60	57.15	125.00*	220.20*	440.40
8407ƒ•	C	4	16 (65 x 34)	55	.416″	....	.....	.....	95.75	193.80	.....	.....
8425	C	5	20 (26 x 34)	60	.318″	....	.....	.....	79.75	160.20	.....	.....
8426	C	6	20 (26 x 34)	60	.344″	....	.....	.....	97.95	197.10	.....	.....
8427	C	7	20 (26 x 34)	60	.355″	....	.....	.....	106.75	214.65	.....	.....
8418	C	8	20 (26 x 34)	60	.381″	....	.....	.....	120.70	240.55	.....	.....

*Capacitance between one conductor and remaining conductors (if any) connected to shield. †Brown Hypalon® jacket; 8408 has heavy duty brown Hypalon jacket. ‡Miniature cable. ƒBlack neoprene jacket; •Passes the FR-1 vertical flame test.

BROADCAST AUDIO CABLES

Nos. 8437 and 8441: Tinned copper, vinyl insulated, conductors cabled, 8441 stranded, and 8437 solid tinned copper drain wire, tinned copper braid shield, black vinyl jacket. **Nos. 8450, 8451 and 9451:** Tinned copper, polypropylene insulated, conductors cabled, stranded tinned copper ground drain wire, Beldfoil® aluminum-polyester shield, paper wrap, black or gray vinyl jacket (specify); **No. 9451,** gray vinyl jacket only. Jacket and shield on No. 9541 are bonded so both can be removed on automatic stripping equipment. All types are 2-conductor. **Color Coding:** Black, red.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.* pF/ft.	Work Volts	Net Each, Spool of 100′	250′	500′	1000′
8437•▲	D	22 (Solid)	.200″	85	300	.....	.....	$ 99.05*	$163.20*
8441•▲	D	22 (16 x 34)	.210″	86	300	$25.05	.....	108.50*	178.80*
8450†•	E	22 (Solid)	.118″	76	200	13.95	$24.75	49.45*	98.85*
8451†•	E	22 (7 x 30)	.135″	67	200	15.05	28.80	57.55*	115.05*
9451•	E	22 (7 x 30)	.135″	67	200	.....	.....	74.10*	125.00

*Between one conductor and other conductor connected to shield. †Miniature. •Passes the FR-1 vertical flame test. ▲U.L. Listed.

TWO CONDUCTOR SHIELDED CABLE

Variety of gauges, insulations, shieldings and jackets meet every service requirement. Uniform quality for dependable service. **Fig. F Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield, chrome vinyl jacket. **Fig. G Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket, except **No. 8460,** conductor insulated with Geosol insulation, Copperweld drain wire and white vinyl jacket. **Fig. H Type:** Tinned copper, rubber insulated, conductors cabled, separator, braided tinned copper shield, chrome vinyl jacket. **Fig. J Type:** Balanced pair instrumentation cable featuring short lay cabling to minimize pick-up of electromagnetic interference and special conductive textile tape to minimize microphonic noise. Tinned copper, polypropylene insulated, conductors cabled, noise reducing tape, 24 AWG stranded tinned copper drain wire, Beldfoil aluminum-polyester shield, black vinyl jacket. **No. 9154** similar to **Fig. G,** except vinyl insulated, twisted pair, 22 AWG wire, rose gray vinyl jacket; UL Listed (Style 2094).

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Coding	Cap.,* pF/ft.	Work Volts	Net Each, Spool of 100′	250′	500′	1000′
8739•▲	F	22 (Solid)	.160″	Blk, red	66	350	$16.60	.....	$ 68.55*	$125.00
8737•▲	F	22 (7 x 30)	.170″	Blk, red	70	350	17.95	$37.80	75.45*	125.00*
8759•ƒ	F	20 (7 x 28)	.195″	Blk, red	79	350	22.40	.....	88.40*	145.65*
8790•	F	18 (7 x 26)	.231″	Red, wht	92	450	27.80	58.25	116.40*	191.85*
8780•	F	16 (19 x 29)	.266″	Blk, wht	98	450	34.70	.....	125.00*	247.95*
8640•	G	28 (Solid)	.090″	Blk, red	105	100	.....	25.60	51.05*	.....
9460	G	18 (16 x 30)	.222″	Blk, clear	49	450	.....	.....	86.20■	142.05■
9461	G	22 (7 x 30)	.180″	Blk, clear	47	350	.....	.....	60.10■	120.15■
9462•▲	G	22 (7 x 30)	.178″	Blk, red	90	300	19.15	.....	72.45*	125.00*
9464	G	20 (7 x 28)	.204″	Blk, clear	49	350	.....	.....	73.35■	125.00■
9198	G	26 (19 x 38)	.160″	Red, wht	50.1	...	24.30	.....	92.75■	152.85*
9199	G	26 (19 x 38)	.165″	Red, wht, black	50	...	26.75	.....	101.60■	167.40
8641•▲	G	24 (7 x 32)	.164″	Blk, clear	42	350	15.20	.....	60.80*	121.60*§
8761•▲	G	22 (7 x 30)	.171″	Blk, clear	47	350	.....	.....	61.15*	122.30*§
8762•▲	G	20 (7 x 28)	.200″	Blk, clear	49	350	16.30	32.80	65.45*	125.00*§
8760•▲	G	18 (16 x 30)	.222″	Blk, clear	44	450	.....	39.15	78.30*	129.00*§
8719•▲	G	16 (19 x 29)	.292″	Blk, clear	47	600	.....	.....	125.00*	227.85*§
8720•▲	G	14 (19 x 27)	.340″	Blk, clear	47	750	.....	.....	173.65*	347.25§
8718•▲	G	12 (19 x 25)	.400″	Blk, clear	49	1000	.....	.....	260.55*	521.01§
9154•▲	G	20 (7 x 28)	.194″	Blk, red	100	300	.....	.....	62.80*	125.00*
8208	H	18 (16 x 30)	.255″	Red, wht	77	200	35.40	.....	127.45*	254.85*
9452	J	24 (19 x 36)	.135″	Blk, red	58	200	18.30	.....	73.65*	125.00*

•Between one conductor and other conductor connected to shield. •Passes the FR-1 vertical flame test. ▲U.L. Listed. ®TM: Beldfoil of Belden. §Also available in 2000′ put-up.

*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. *UNREEL PACKAGE ONLY.

TWO CONDUCTOR UNSHIELDED CABLES

Fig. A Types: Copper, vinyl insulated, cabled. **Fig. B Types:** Copper, vinyl insulated, cabled, chrome vinyl jacket. **Fig. C Types:** Copper, vinyl insulated, jacket color as noted, parallel cable. All conductors tinned except as noted.

Belden No.	Fig.	AWG and (Stranding)	Colors ‡	Nom. O.D.	Suggested Work Volts	Net Each, Spool of 50′	100′	500′	1000′
8481*^	A	22 (Solid)*	1	.114″	300	....	$ 7.25	$ 23.70*	$ 47.35*
8482*	A	19 (Solid)*	1	.130″	350	....	9.50	34.85*	69.75*
8492*	A	19 (Solid)†	2	.170″	600	....	....	....	80.45*
8460*^	A	18 (7 x 26)	3	.175″	450	....	14.15	53.90*	107.75*
8470*^	A	16 (19 x 29)	3	.206″	600	....	....	64.35*	125.00*
9151^	A	22 (7 x 30)†	2	.108″	300	....	....	25.60*	51.15*
9152*^	A	20 (10 x 30)†	2	.125″	300	....	....	31.40*	62.80*
9153*^	A	18 (16 x 30)†	2	.142″	300	....	....	42.45*	84.85*
9497*^	A	16 (19 x 29)	7	.206″	600	....	....	84.30*	138.90*
8442*^	B	22 (7 x 30)	4	.165″	350	....	8.95	34.40*	68.80*
8205*^	B	20 (10 x 30)	4	.190″	350	....	11.20	40.50*	81.00*
8486*	B	19 (Solid)*	1	.162″	350	....	....	48.50*	97.05*
8461*^	B	18 (7 x 26)	3	.226″	450	....	17.85	70.35*	125.00*
9740*^	B	18 (16 x 30)	4	.220″	400	....	....	65.25*	125.00*
8471*^	B	16 (19 x 29)	3	.256″	600	....	....	100.75*	166.05*
8473*	B	14 (19 x 27)	3	.332″	600	....	....	131.55*	263.10
8477*	B	12 (19 x 25)	3	.384″	600	....	....	185.10*	370.20
8782	C	24 (7 x 32)†	5	.058 x .115	300	$ 3.29§	4.84	16.30*	32.60*
8781*	C	22 (Solid)†	.....	.060 x .120	300	....	5.40	16.20*	32.40*
8649*	C	20 (7 x 28)	6	.073 x .146	300	....	7.45	26.75*	53.55*
9712	C	22 (7 x 30)†	8	.065 x .130	300	4.24	6.20	21.75*	43.50*
9708	C	18 (16 x 30)†	8	.110 x .207	300	6.15	9.75	38.35	76.65*
9716	C	16 (65 x 34)†	8	.155 x .299	300	11.85	18.85	66.25*	125.00*

*Bare. †One cond. tinned. ‡Colors: 1—Brn, tan; 2—specify wht or brn; 3—blk, wht; 4—blk, red; (jacket color) 5—specify chrome, brown, clear or wht; 6—chrome, clear; 7—org, blk; 8—clear. §25′, $2.22. ^UL Listed.

THREE CONDUCTOR UNSHIELDED CABLES

Fig. D Type: Bare copper, vinyl insulated and cabled. **Fig. E Types:** Copper, vinyl insulated, cabled, Chrome vinyl jacket. **Fig. F Types:** Copper, vinyl insulated, parallel cable.

8483*	D	19 (Solid)	6	.132″	300	....	$14.20	$ 56.55	$113.05
8443^	E	22 (7 x 30)*	7	.160″	200	$4.00#	10.50	42.25*§	84.45*
8487*	E	19 (Solid)	6	.180″	300	....	....	69.20*	125.00*
8701*	F	22 (Solid)†	8	.060 x .190	300	....	10.40	37.80	75.55
9498*^	D	16 (19 x 29)	9	.220″	450	....	....	122.60*	202.05*

*Tinned. †One conductor tinned. ‡Colors: 6, brown, gray, tan; 7, black, green, red; 8, chrome; 9, white, brown, red; orange, black and orange with black stripe. §250′, $21.15. ^U.L. Listed. #25′.

MICROPHONE AND SHIELDED POWER SUPPLY CABLES

Nos. 8401 and 8411: 3 strands copper, 4 strands copper covered steel, cellulose yarn braid, polyethylene insulated, tinned copper braid shield, chrome vinyl jacket. **No. 8434:** 3 strands copper, 4 strands Copperweld, tinned, polyethylene insulated, black and red conductors under Beldfoil® ISO-Shield™, stranded ground wire, green and clear conductors under overall Beldfoil aluminum-polyester shield, chrome vinyl jacket. Pairs cabled on common axis to reduce diameter. **No. 8420:** Tinned cadmium bronze, cotton wrap, polyethylene insulated, cabled with fillers, rayon braid, tinned copper braid shield, chrome vinyl jacket. **No. 8723:** Tinned copper, polypropylene insulated, black and red under Beldfoil ISO-Shield, green and white under Beldfoil aluminum-polyester shield, stranded tinned copper common drain wire, chrome vinyl jacket. Pairs cabled on common axis to reduce dia. **No. 8729:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, three 23 AWG solid copper covered steel, one 25 AWG stranded copper covered steel drain wires, white vinyl jacket. Conductors color-coded red, black, green and clear. **Nos. 9533 thru 9546:** Tinned copper, PVC insulated, conductors cabled, Beldfoil aluminum-polyester shield with 24 AWG drain wire, chrome PVC jacket. **No. 9418:** Tinned copper, vinyl insulated, conductors cabled, Beldfoil aluminum-polyester shield with 20 AWG tinned copper drain wire, chrome vinyl jacket. **All Others:** Tinned copper, polyethylene insulated, conductors cabled, rayon braid, tinned copper braid shield, chrome vinyl jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Cap.,* pF/ft.	Nom. O.D.	Net Each, Spool of 15′	25′	50′	100′	250′	500′	1000′
8411	G	1	25 (7 x 33)	40	.144″	$4.42	$6.40	$10.20	$19.40	$39.05	$78.00*	128.55*
8401	G	1	25 (7 x 33)	25	.200″	5.45	7.35	13.20	23.95	49.90	99.65*	164.25*
8420†*	H	2	24 (45 x 40)	40	.185″	7.85	11.60	18.05	33.60	76.90	126.70*	.....
8422	I	2	22 (16 x 34)	32	.231″	6.90	10.50	20.20	34.80	74.00	125.00*	243.90*
8403*	I	3	20 (26 x 34)	45	.244″	10.05	....	25.95	48.50	106.40	175.35*	350.70*
8404*^	I	4	20 (26 x 34)	40	.248″	10.75	....	....	52.05	117.05	192.90*	385.80*
8405*	I	5	20 (26 x 34)	40	.275″	....	....	....	.....	125.00	225.45*	450.90*
8434	J	4	25 (7 x 33)	40	.165″	....	....	....	20.85	.....	90.45*	149.10*
8723	K	4	22 (7 x 30)	62	.165″	....	....	....	21.30	.....	91.10*	150.15*
8729^	L	4	22 (19 x 34)	42	.265″	....	....	....	.....	.....	143.65*	287.25*
9533*^	L	3	24 (7 x 32)	30§	.168″	....	....	....	21.30	.....	81.35*	134.10*
9534*^	L	4	24 (7 x 32)	30§	.180″	....	....	....	26.15	.....	99.20*	163.50*
9535*^	L	5	24 (7 x 32)	30§	.190″	....	....	....	30.70	.....	117.70*	193.95*
9536*^	L	6	24 (7 x 32)	30§	.205″	....	....	....	34.05	.....	125.00*	222.30*
9537*^	L	7	24 (7 x 32)	30§	.205″	....	....	....	36.40	.....	125.00*	238.50*
9538*^	L	8	24 (7 x 32)	30§	.220″	....	....	....	39.90	.....	136.20*	272.40*
9539*^	L	9	24 (7 x 32)	30§	.240″	....	....	....	44.15	.....	150.40*	300.75*
9540*^	L	10	24 (7 x 32)	30§	.250″	....	....	....	46.15	.....	164.20*	328.35*
9541*^	L	15	24 (7 x 32)	30§	.280″	....	....	....	80.75	.....	288.85*	577.65*
9542*^	L	20	24 (7 x 32)	30§	.310″	....	....	....	107.65	.....	385.50*	771.00
9543*^	L	25	24 (7 x 32)	30§	.370″	....	....	....	125.00	.....	477.00	954.00
9544*^	L	30	24 (7 x 32)	30§	.390″	....	....	....	146.75	.....	572.25	1144.50
9545*^	L	40	24 (7 x 32)	30§	.440″	....	....	....	192.55	.....	751.50	1503.00
9546*^	L	50	24 (7 x 32)	30§	.490″	....	....	....	238.45	.....	930.00	1858.50
9418*	J	4	18 (16 x 30)	110	.245″	....	....	....	38.40	.....	125.85*	251.70*

*Between one conductor and remaining conductors (if any) connected to shield. †Miniature. ^U.L. Listed. §Capacitance between conductors. *Passes the FR-1 vertical flame test.

75-OHM PRECISION VIDEO CABLES

High quality carrier of video signal in color or monochrome studios; 100% sweep tested.

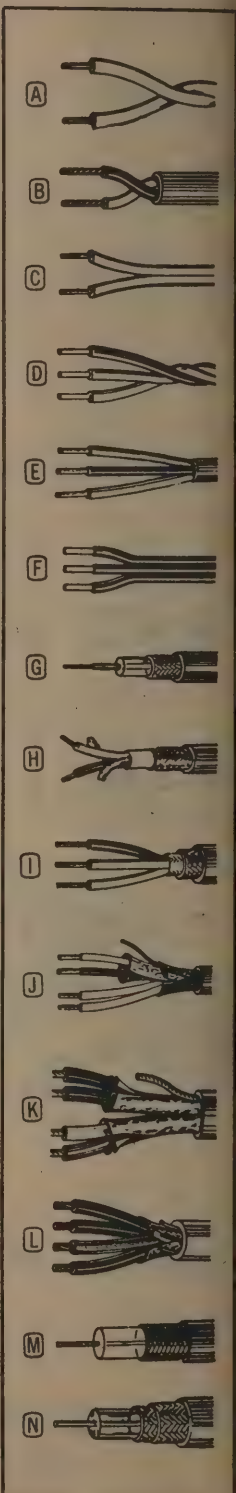
Belden No. 8279 (Fig. M)—Has 23 (7 x 31) bare compacted conductor, polyethylene insulated, tinned copper braid shield, black polyethylene jacket. Nom. impedance, 75 ohms. Nom. capacitance, 21 pF/ft. Nom. O.D., .220″; fits RG-59/U connectors.
100′ Spool, Net..... **$39.95** **250′ Spool,** Net..... **$86.55** **500′ Spool,** Net..... **$142.60**

Belden No. 8281 (Fig. N)—Has 20 (solid) copper conductor, polyethylene insul., tinned copper double braid shield, black polyethylene jkt. Nom. impedance, 75 ohms. Nom. cap., 21 pF/ft. Nom. O.D., .304″.
500′ Spool, Net..... **$253.95** **1000′ Spool,** Net..... **$507.90**

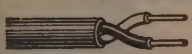
Belden No. 9231* (Fig. N)—Same as 8281 except gray non-contaminating vinyl jacket.
500′ Spool, Net..... **$316.30** **1000′ Spool,** Net..... **$632.55**

Belden No. 9209 (Fig. M)—Has 23 (7 x 32) bare compacted conductor, polyethylene insulated, Duobond tinned copper braid shield, black polyethylene jacket.
500′ Unreel, Net..... **$150.15** **Belden No. 8299 Adapter**—Use with PL-259 connector and 8281, 9231 cable only. Net/25..... **$ 11.95**

***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.**




A




B


C


D


E

MULTIPLE PAIR UNSHIELDED SOUND CABLES (FIG. A)

Made with 80° C vinyl plastic compounds for high dielectric strength and best physical properties. Conductors are paired with a short-lay twist for conductor balance. Tinned copper, vinyl insulated, cabled in color-coded pairs, chrome vinyl jacket. Voltage, 200 V working except 18 gauge, 400 V. U.L. Listed.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
8740*	1	22 (Solid)	.150″	$ 8.45	$ 30.30■	$ 60.65■
8741*	2	22 (Solid)	.205″	15.15	58.55■	117.05*
9744*	2	22 (7 x 30)	.234″	.....	69.00*	125.00*
9156	2	18 (16 x 30)	.282″	.....	125.00*	206.55*
9750*	3	20 (10 x 30)	.301″	28.60	125.00	210.30
8742*	3	22 (Solid)	.240″	19.70	81.55*	134.40*
9745*	3	22 (7 x 30)	.280″	.....	102.10*	168.30*
8690*	3	18 (16 x 30)	.362″	45.60	166.95*	333.90
8757*	4	22 (Solid)	.255″	.....	107.95*	177.90*
9746*	4	22 (7 x 30)	.295″	.....	125.00	214.95
9157	4	18 (16 x 30)	.353″	52.25	194.40	388.80
9158*	5	22 (Solid)	.298″	28.80	125.00	213.90
9159*	5	18 (16 x 30)	.409″	.....	257.95	515.85
9751*	6	20 (10 x 30)	.370″	53.15	198.90	397.80
8743*	6	22 (Solid)	.305″	32.15	125.00*	236.55*
8747*	6	22 (7 x 30)	.320″	38.60	144.40	288.75
8691*	6	18 (16 x 30)	.550″	95.75	358.75	717.45
9160*	8	22 (Solid)	.336″	.....	165.40	330.75
9161*	8	18 (16 x 30)	.469″	111.40	417.00	834.00
9752*	9	20 (10 x 30)	.447″	78.55	301.95	603.90
8744*	9	22 (Solid)	.354″	46.50	176.95	353.85
8748*	9	22 (7 x 30)	.389″	57.35	221.25	442.50
8692*	9	18 (16 x 30)	.590″	125.00	492.75	985.50
8753*	11	22 (Solid)	.384″	58.90	228.00	456.00
9747*	12	22 (7 x 30)	.440″	81.65	304.35	608.70
9741*	12	18 (16 x 30)	.690″	168.10	656.25	1312.50
8754*	13	22 (Solid)	.409″	66.00	257.35	514.65
9755*	15	20 (10 x 30)	.535″	123.40	471.00	942.00
8745*	15	22 (Solid)	.420″	79.85	304.75	609.45
8749*	15	22 (7 x 30)	.455″	95.75	371.80	743.55
9742*	15	18 (16 x 30)	.800″	208.90	816.00	1630.50
8755*	19	22 (Solid)	.445″	101.95	381.00	762.00
9748*	19	22 (7 x 30)	.520″	125.00	469.50	939.00
9743*	19	18 (16 x 30)	.880″	264.20	1030.50	2059.50
8756*	23	22 (Solid)	.510″	.....	462.75	925.50
9749*	23	22 (7 x 30)	.570″	154.65	603.00	1206.00
8746‡*	27	22 (Solid)	.550″	.....	1056.00†	1056.00†
8750‡*	27	22 (7 x 30)	.595″	.....	1411.50†	1411.50†

*In self-dispensing Convert-a-Pak. †Per 1000 feet. ‡Available 250′, 500′, 1000′ or 2000′ spools: All spools one piece; lengths may vary +20%, −0%. *Pass FR-1 vertical flame test.

UNSHIELDED SOUND CABLES

Belden No. 8751* (Fig. B)—51 pairs of shielded cable, #22 solid tinned copper, vinyl insulated, Beldfoil aluminum-polyester shield over color-coded cabled pairs, #22 (7 x 30) stranded ground drain wire, chrome vinyl jacket. Working volts, 200. Nom. O.D. .700″. Specify length§.
1000 ft., Net.....**$2730.00**
Less than 1000′, per ft. **3.32**

Belden No. 9753* (Fig. C)—Same as 8751 except: 102 pairs; nom. O.D., 1.100″. Specify length§.
1000 ft., Net.....**$5280.00**
Less than 1000′, per ft. **6.45**

§Available 250′, 500′, 1000′ or 1500′ spools: All spools one piece; lengths may vary +20%, −0%.

Belden No. 8752* (Fig. B)—38 pairs of shielded cable, same as 8751 but polypropylene insulated. Nom. O.D., .600″. Specify length♦.
1000 ft., Net..... **$2323.50**
Less than 1000′, per ft. **2.82**

♦Available 250′, 500′ or 1000′ spools: All spools one piece; lengths may vary +20%, −0%. Above cables pass FR-1 vertical flame test.

WRITE FOR COLOR CODING

MULTIPLE PAIR INDIVIDUALLY SHIELDED CABLES (FIG. D)

Conductors 22 gauge vinyl or 18 and 22 gauge polypropylene insulated, cabled in color-coded pairs, each pair and its ground wire under Beldfoil® aluminum-polyester shield, overall chrome vinyl jacket. Working voltage, 300 V, 22 AWG; 350 V, 20 AWG; 400 V, 18 AWG. Nom. capacitance between conductors, 77 pF/ft., vinyl; 55 pF/ft., polypropylene. Pass FR-1 vertical flame test.

*Vinyl; all others polypropylene insulation. All spools one piece; lengths may vary +20%, −0%. U.L. Listed. †Per 1000 ft.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	250′	500′	1000′
8767*	3	22 (Solid)	.279″	$ 35.35	.....	$131.25*	$262.50
8768*	6	22 (Solid)	.394″	71.90	.....	273.70	547.35
8764*	9	22 (Solid)	.440″	97.50	.....	389.25	778.50
8765*	11	22 (Solid)	.485″	117.30	.....	462.75	925.50
8766*	15	22 (Solid)	.540″	155.05	.....	635.25	1270.50
8777	3	22 (7 x 30)	.295″	40.05	$ 92.55*	152.50*	304.95
8778	6	22 (7 x 30)	.410″	80.35	159.90	319.80	639.60
8774	9	22 (7 x 30)	.450″	125.00	235.15	470.25	940.50
8775	11	22 (7 x 30)	.495″	125.00	279.40	558.75	1117.50
9768	12	22 (7 x 30)	.495″	148.50	299.65	599.25	1198.50
8776	15	22 (7 x 30)	.570″	178.80	369.40	738.75	1477.50
9769	17	22 (7 x 30)	.620″	217.00	431.25	862.50	1725.00
8769	19	22 (7 x 30)	.630″	242.30	492.75	985.50	1969.50
8773	27	22 (7 x 30)	.760″	333.15	2799.00†	2799.00†	2799.00†
9873	3	20 (10 x 30)	.350″	49.50	111.40	183.55	367.05
9874	6	20 (10 x 30)	.480″	98.85	186.10	372.10	744.15
9875	9	20 (10 x 30)	.560″	125.00	271.90	543.75	1087.50
9876	11	20 (10 x 30)	.585″	164.80	328.15	656.25	1312.50
9877	12	20 (10 x 30)	.605″	177.10	352.90	705.75	1411.50
9879	15	20 (10 x 30)	.660″	214.15	426.75	853.50	1705.50
9773	3	18 (16 x 30)	.392″	63.25	.....	235.45	470.85
9774	6	18 (16 x 30)	.575″	125.00	.....	482.25	964.50
9775	9	18 (16 x 30)	.630″	187.80	.....	727.50	1455.00
9776	12	18 (16 x 30)	.765″	248.10	.....	969.00	1938.00
9777	15	18 (16 x 30)	.830″	301.35	.....	1207.50	2415.00
9402	2	20 (10 x 30)	.300″	.....	.....	125.00■	226.35*

MULTIPLE PAIR INDIVIDUALLY SHIELDED DIRECT BURIAL, AUDIO AND DATA CABLE (FIG. E)

Especially designed for direct burial installation. Tinned copper, polypropylene insulated, Beldfoil aluminum-polyester shield over individually twisted pairs with 22 AWG stranded tinned copper drain wire, black high density polyethylene jacket.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9883	3	20 (10 x 30)	.340″	.....	$194.20	$388.35
9886	6	20 (10 x 30)	.480″	.....	408.75	817.50
9890	10*	20 (Solid)	.310″	.....	239.25	478.50
9894	15*	20 (Solid)	.390″	.....	310.80	621.60
9802	2*	20 (Solid)	.190″	.....	58.35	116.70
9803	3*	20 (Solid)	.205″	.....	74.35	125.00

*Conductors; not paired.

♦ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. ■UNREEL PACKAGE ONLY.

BELDEN Electronic Wire and Cable

DATA AND INSTRUMENTATION CABLES

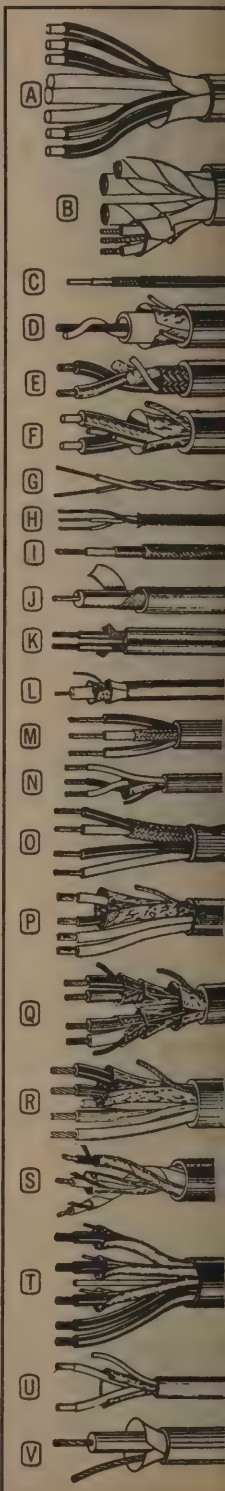
Belden No. 9784* (Fig. B)—Six pair; 24 AWG (7 x 32) stranded tinned copper, foam polypropylene insulation, cond. cabled, each pair has separate aluminum-polyester shield with 24 AWG drain wire, chrome vinyl jacket. Nom. O.D., .494″; nom. cap. between cond., 12 pF/ft. WV, 60 V.
500′ Spool, Net.....**$321.75** **1000′ Spool,** Net.....**$643.50**
Belden No. 8725* (Fig. B)—Four pair; 20 AWG (7 x 28) tinned copper cond., polypropylene insulated, four groups of 2 conductors with 22 AWG drain wire. Each group individually Beldfoil aluminum-polyester shield with polyester tape wrap, chrome vinyl jacket. Nom. O.D., .345″; cap. between cond., 27 pF/ft. WV, 400 V. Cabled around common axis.
500′ Spool, Net.....**$314.85** **1000′ Spool,** Net.....**$629.70**
Belden No. 8700 (Fig. C)—28 AWG (Solid) tinned copper, polypropylene insul., bare copper braid shield, black vinyl jacket. Shield coverage, 91%. Nom. O.D., .054″. Nom. cap., 48 pF/ft.
25′ Spool, Net.....**$8.10** **50′ Spool,** Net.....**$13.50**
100′ Spool, Net.....**$23.15** **250′ Spool,** Net.....**$53.25**
Belden No. 9272* (Fig. E)—Two 20 AWG (7 x 28) tinned copper cond., polyethylene color coded insulation, tinned copper braid shield, blue vinyl jacket. Nom. O.D., .242″; cap., 19.7 pF/ft. U.L. Listed.
100′ Spool, Net...**$32.60** **500′ Spool,** Net.....**$125.00*** **1000′ Spool,** Net....**$214.95***
Belden No. 9271*^ (Fig. F)—Two 28 (Solid) tinned copper cond., polyethylene color coded insulation Beldfoil aluminum-polyester shield with stranded tinned copper drain wire, blue vinyl jacket. Nom. cap., 12.2 pF/ft. 25 AWG (7 x 33); nom. O.D., .242″. U.L. Listed.
100′ Spool, Net...**$17.85** **500′ Spool,** Net.....**$66.95*** **1000′ Spool,** Net....**$125.00***

HI-FI, STEREO AND PHONOGRAPH CABLES

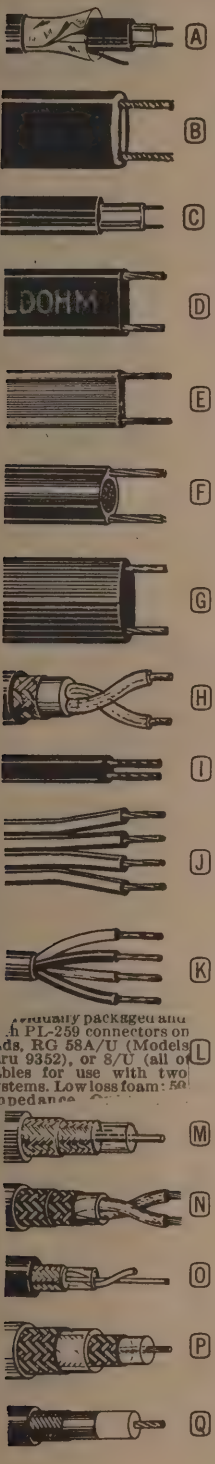
Belden No. 8430* (Fig. G)—Phono arm cable has two 32 AWG, 7 x 40 stranded, tinned copper conductors, vinyl insulated, twisted pair. O.D., .050″ nominal. Coded black, red. Capacitance, 21 pF/ft., nom.
10′ Spool, Net.....**$2.89** **25′ Spool,** Net.....**$4.02** **250′ Spool,** Net.....**$23.25**
Belden No. 9436* (Fig. G)—Same as 8430 except: Four conductors color coded blk, red, wht, grn; O.D., .065″ nom.; capacitance between conductors 22 pF/ft.
10′ Spool, Net.....**$4.93** **25′ Spool,** Net.....**$7.00** **100′ Spool,** Net.....**$16.50**
Belden No. 8429* (Fig. H)—Phono arm cable same as above, but Tith tinned copper braid shield. Capacitance 50 pF/ft. one conductor to other conductor and shield. Nom. O.D., .057″.
10′ Spool, Net.....**$3.82** **25′ Spool,** Net.....**$6.35** **250′ Spool,** Net.....**$42.80**
Belden No. 8419* (Fig. H)—Similar to the above but has three conductors for three-wire systems. Capacitance one cond. to other cond. and shield, 50 pF/ft. O.D., .067″ nom. Coded blk, red, wht.
10′ Spool, Net.....**$4.22** **25′ Spool,** Net.....**$7.45** **250′ Spool,** Net.....**$52.55**
Belden No. 9437* (Fig. H)—Same as 8429 except 4 cond. color coded blk, red, wht, grn. Nom. O.D., .072″
10′ Spool, Net.....**$5.30** **25′ Spool,** Net.....**$8.50** **100′ Spool,** Net.....**$25.75**
Belden No. 8421 (Fig. J)—Hi-Fi connecting cable has single 25 AWG, 7 x 33 stranded of 3 strands tinned copper, 4 strands copper covered steel; cellular polyethylene insulated for low loss, tinned copper spiral wrapped shield and chrome vinyl jacket. O.D., .180″ nominal. Capacitance, 18 pF/ft., nominal.
15′ Spool, Net.....**$5.35** **25′ Spool,** Net.....**$7.10** **50′ Spool,** Net.....**$12.75**
100′ Spool, Net.....**$21.20** **250′ Spool,** Net.....**$46.90**
Belden No. 9456 (Fig. J)—Hi-Fi connecting cable has single 30 AWG (7 x 38 stranded, tinned, copper covered steel), foam polyethylene insulated, tinned copper spiral wrapped shield, gray vinyl jacket. O.D., .160″, nominal. Capacitance, 12 pF/ft., nominal.
25′ Spool, Net.....**$10.05** **100′ Spool,** Net.....**$27.40**
Belden No. 9454—Two of **No. 9456** side-by-side with black vinyl jacket. Polarity marked.
25′ Spool, Net.....**$17.95** **100′ Spool,** Net.....**$48.50**
Belden No. 8416 (Fig. K)—Stereo, language lab. Same as 8421 except: Polyethylene insulated; color coded red, clear (polarity rib on red); individually shielded. O.D., .106″ x .213″. Nom. cap., 35 pF/ft. between conductors, each channel. **15′ Spool,** Net.....**$ 6.15** **25′ Spool,** Net.....**$ 7.70**
50′ Spool, Net.....**$14.40** **100′ Spool,** Net.....**$25.60** **250′ Spool,** Net.....**$57.10**
Belden No. 8417* (Fig. L)—Min. audio connecting cable, totally shielded. Same as 8416 except single cond. with double Beldfoil aluminum-polyester shield, inner shield folded, 26 AWG stranded tinned copper, grd. drain wire. Nom. O.D., .140″. Nom. cap., 25 pF/ft. between cond.
15′ Spool, Net.....**$4.93** **25′ Spool,** Net.....**$5.90** **50′ Spool,** Net.....**$ 9.05**
100′ Spool, Net.....**$17.20** **250′ Spool,** Net.....**$37.35**
Belden No. 9264* (Fig. V)—Hi-fi cable has one 24 AWG, 7 x 32 stranded conductor, flame retardant polyethylene ins. Beldfoil aluminum-polyester shield, white vinyl jacket. No. O.D., .122 x .146″. Nom. impedance, 50 ohms. Nom. cap between cond's., 34 pF/ft. UL Listed. **100′ Spool,** Net..**$15.85**
250′ Spool, Net.....**$33.15** **500′ Spool,** Net.....**$66.20** **1000′ Spool,** Net.....**125.00**

SPECIAL AUDIO AND SOUND CABLES

Belden No. 8734* (Fig. M)—Tinned copper, vinyl insulated, 1 white coded conductor with tinned copper braid shield, 3 conductors cabled, chrome vinyl jacket; unshielded conductors coded black, red. Conductors 22 AWG, 7 x 30 stranded. O.D., .194″ nominal. Suggested 350 V working.
100′ Spool, Net.....**$22.75** **500′ Spool,** Net.....**$90.85*** **1000′ Spool,** Net....**$149.70***
Belden No. 8763 (Fig. N)—Three 20 AWG, 7 x 28 stranded, tinned copper conductors polyethylene insulated; 2 conductors (black red) shielded in Beldfoil aluminum-polyester shield; unshielded conductor coded clear, #20 stranded tinned copper ground drain wire, chrome vinyl jacket. O.D., .210″ nominal. Suggested 350 V working. **500′ Spool,** Net...**$101.85*** **1000′ Spool,** Net....**$167.85***
Belden No. 8732^ (Fig. O)—Four 22 AWG, 7 x 30 stranded tinned copper conductors polyethylene insulated; tinned copper braid shield over 2 (black, clear) conductors; unshielded conductors coded black, clear; overall chrome vinyl jacket. O.D., .188″ x .296″ nominal. Suggested 350 V working. U.L. Listed.
100′ Spool, Net....**$28.25** **500′ Spool,** Net....**$115.25*** **1000′ Spool,** Net....**$189.90***
Belden No. 8722* (Fig. P)—Four 20 AWG, 7 x 28 stranded, tinned copper conductors vinyl insulated; Beldfoil aluminum-polyester shield over 2 conductors (black, red); unshielded conductors coded green, white; #22 stranded tinned ground drain wire, chrome vinyl jkt. O.D., .230″ nom. Suggested 350 WV. Pairs cabled on common axis to reduce dia. **500′ Spool,** Net.**$125.00*** **1000′ Spool,** Net.**$217.35***
Belden No. 8724* (Fig. P)—Same as 8722, but 22 AWG, 7 x 30 stranded, 24 AWG stranded tinned copper ground drain wire, 200 working volts; polypropylene insulated, nominal O.D., .165″.
250′ Spool, Net.....**$44.05** **500′ Spool,** Net....**$88.10*** **1000′ Spool,** Net....**$145.20***
Belden No. 9155* (Fig. P)—Same as 8724 but 20 AWG, 7 x 28 shielded, and 18 AWG, 16 x 30 unshielded, 22 AWG stranded tinned copper drain wire; rose gray vinyl jacket. O.D., .256″ nominal. Suggested 300 V. working. U.L. Listed. **500′ Spool,** Net....**$125.00*** **1000′ Spool,** Net....**$226.35***
Belden No. 8728^ (Fig. Q)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated, cabled in pairs, each pair has Beldfoil aluminum-polyester shield with copper drain wire and polyester film over shields, overall Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. Color coded red, blk, grn, wht. Pairs cabled on common axis to reduce diameter. O.D., .198″ nom. 400 WV, suggested. U.L. Listed. **500′ Spool,** Net.**$133.05*** **1000′ Spool,** Net.**$266.10***
Belden No. 8730 (Fig. R)—Four 22 AWG, 7 x 30 stranded, tinned copper, polypropylene insulated; Beldfoil aluminum-polyester shield over one pair (red, blk) with stranded tinned copper drain wire; unshielded coded green, white; chrome vinyl jacket. Pairs cabled on separate axis for reduced magnetic coupling. O.D., .205″ nom. 200 WV suggested.
500′ Spool, Net.....**$125.00*** **1000′ Spool,** Net.....**$207.15***
Belden No. 8733 (Fig. S)—Three 22 AWG, 7 x 30 stranded, tinned copper conductors, polyethylene insulated, each has separate Beldfoil aluminum-polyester shield; ground wire for each conductor is tinned cadmium bronze ribbon under Beldfoil aluminum-polyester shield; conductors cabled and color coded, black red and clear. Overall chrome vinyl jacket. Nominal .205″ O.D. Suggested 350 V working.
100′ Spool, Net.....**$26.70** **500′ Spool,** Net.....**$104.65***
Belden No. 8788 (Fig. T)—Same as 8733 but vinyl insul., color coded blk, red, grn, plus 2 cond. unshielded, cabled around vinyl filler (yel., blue). Nom. O.D., .236″. **500′ Spool,** Net.....**$142.75***
Belden No. 8640* (Fig. U)—Two 28 AWG solid copper, Geosol™ insulated, conductors cabled in pairs, Beldfoil aluminum-polyester shield each pair, 30 AWG solid tinned copper covered steel drain wire, white vinyl jacket. Color coded blk, red. Nom. O.D., .090″; cap. between cond. 55 pF/ft.
250′ Spool, Net.....**$25.60** **500′ Spool,** Net.....**$51.05***



®TM: Beldfoil of Belden. *Passes the FR-1 vertical flame test. *Unreel available, same price. ^UL Listed.



...ividually packaged and ...h PL-259 connectors on ...ds, RG 58A/U (Models ...nru 9352), or 8/U (all o... ...ables for use with two ...ystems. Low loss foam: 50 ...mpedance ...

TRANSMISSION LINE CABLES
300 OHM IMPEDANCE TWIN LEAD WIRE

No. 9090 Metro: Two 26 AWG 7 x 34 stranded copper covered steel conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil® aluminum-polyester shield stranded tinned drain wire, brown or tan vinyl jacket. **No. 9085 Maxi:** Two 22 AWG 7 x 30 stranded copper covered steel parallel conductors, cellular brown polyethylene oval jacket. **No. 8290 Permohm®:** 100% sweep tested. Two 22 AWG 7 x 30 stranded copper covered steel conductors, orange polyethylene insulation and web between conductors, cellular polyethylene oval insulation, Beldfoil aluminum-polyester shield, stranded tinned drain wire, brown polyethylene jacket. **No. 8285 Permohm:** Two 22 AWG 7 x 30 stranded copper covered steel parallel conductors, orange polyethylene insulation and web between conductors, cellular brown polyethylene oval jacket. **No. 8230 Weldohm®:** Two 20 AWG 7 x 28 stranded bare copper covered steel parallel conductors, brown polyethylene insulated. **No. 8225:** Two 20 AWG 7 x 28 stranded bare copper parallel conductors, brown polyethylene insulated. **No. 8226:** Same as 8225 except for indoor use only; specify ivory or clear. **No. 8275 Cellufine®:** Two 20 AWG 7 x 28 stranded bare copper covered steel parallel conductors, brown polyethylene jacket with inert gas filled unicellular polyethylene core. **No. 8235:** Rated 1 kW for amateur transmitting and receiving. Two 18 AWG 7 x 26 stranded bare copper parallel conductors, brown polyethylene insulated.

Belden No.	Fig.	Nominal O.D. Inch	Nominal Atten.* dB	Net Each, Coil of 25′	50′	75′	100′	Net Each, Spool of 250′	500′	1000′
9090	A	.215 x .345	6.4	$7.30	$ 9.85	$12.65	$15.40	.....	$ 73.15	.....
9085	B	.165 x .400	2.8	3.52	4.82	5.95	7.40	.....	39.55	$ 61.05
8290	A	.305 x .515	3.5†	....	19.05	25.15	31.85	$74.10	125.00	.....
8285	C	.255 x .468	2.8	....	8.20	11.05	14.05	30.50	61.00	121.95
8230	D	.072 x .400	2.2	2.60	3.73	4.99	6.20	.....	29.15	54.80
8225	D	.058 x .400	2.2	2.37	3.53	4.53	5.60	.....	26.30	49.50
8226	E	.058 x .400	2.2	2.37	3.53	4.53	5.60	.....	.....	.....
8275	F	.300 x .400	2.1	....	7.35	10.05	12.85	.....	57.45	114.85
8235	G	.185 x .520	2.2▲	....	....	....	18.15	.....	79.75	.....

*Attenuation per 100′ at 300 MHz. †At 213 MHz. ▲At 400 MHz.

SHIELDED 100-OHM IMPEDANCE LINE (FIG. H)

Belden No. 8227*‡—One tinned, one bare 20 AWG, 7 x 28 stranded copper conductors, polyethylene insulated, cabled, in polyethylene jacket, tinned copper braid shield with overall black vinyl jacket. O.D., .325″ nom. Cap., 15.5 pF/ft. nom. Attenuation 4.1 dB at 100 MHz, 10.2 dB at 400 MHz. U.L. Listed. **500′ Spool,** Net.. **$193.20**; **1000′ Spool,** Net.. **$386.40**; **2000′ Spool,** Net.. **$774.00**

72 OHM IMPEDANCE CABLES (FIG. I)

Belden No. 8222—Two 20 AWG 7 x 28 stranded bare copper parallel conductors, brown polyethylene insulated. O.D., .075″ x .128″. Cap., 20.3 pF/ft. nom. Attenuation 7.7 dB at 100 MHz, 15.9 dB at 400 MHz. **100′ Spool,** Net..... **$8.45** **500′ Spool,** Net..... **$35.40**

Belden No. 8210—Rated 1 kW (RF). Two 13 AWG 7 x 21 stranded bare copper parallel conductors, brown polyethylene insulated. O.D., .166″ x .278″. Cap., 21 pF/ft. nom. Attenuation, 3.8 dB at 100 MHz, 16.0 dB at 900 MHz. **100′ Spool,** Net..... **$43.15** **250′ Spool,** Net..... **$85.30**

ANTENNA ROTATOR CABLE

Fig. J Types: Bare copper, parallel. 8464 chrome vinyl insulated, 1 cond. tinned and insulation ribbed. 9404 gold vinyl insulated, 8463 brown polyethylene insulated, 9403 black polyethylene insulated, 1 cond. tinned. Suggested working, 200 V. **Fig. L Type:** Bare copper cond. vinyl insulated, cabled, chrome vinyl jacket. Color Coded: 1—Black; 2—Green, 3—Red, 4—White, 5—Yellow. Suggested working, 200 V; 8489, 400 V.

Belden No.	Fig.	No. Cond.	AWG and (Stranding)	Nom. O.D., Inch	Net Each, Spool of 50′	75′	100	500′	1000′
8463	J	5	20 (7 x 28)	.070 x .375	$10.40	$15.20	$20.05	$ 88.40	.....
8464*	J	4	20 (7 x 28)	.070 x .390	9.30	12.60	16.40	67.80	$125.00
9403	J	3	20 (7 x 28½)	.075 x .350	6.00	8.10	10.10	47.15	.....
9404	J	3	20 (7 x 28½)	.075 x .360	6.35	8.60	10.65	49.60	.....
8484*	K	4	20 (7 x 28)	.180	.....	.....	17.20	72.75*	125.00*
8489†*‡	K	4	18 (16 x 30)§	.250	.....	.....	25.75	112.30*	185.10*
8485*	K	5	20 (7 x 28)	.190	.....	.....	21.20	90.45*	149.10*
8488†*	K	8	22 (7 x 30)	.205	.....	.....	24.60	107.20*	176.70*

†Color coded blk, blue, brn, grn, orange, red, wht, yel. ‡Color coded blk, wht, red, grn. §Tinned copper. ♯250′, **$56.15.** *Passes the FR-1 vertical flame test. ‡U.L. Listed.

RG/U TRANSMISSION LINE CABLES

Polyethylene insulation over conductors except as otherwise indicated.

Belden No.	Fig	No. RG-	AWG and (Stranding)	Shields No.	Shields Type	Jacket	Nom. O.D.	Net Each, Spool of 25′	50′	100′	500′	1000′
8237*§	L	8/U	13 (7 x 21) b	1	b	BV	.405″	....	$25.75	$47.90	$156.60	$313.20
9251**‡	L	8A/U	13 (7 x 21) b	1	b	BN	.405″	....	....	67.10	214.90	429.75
8242*§	M	9/U	13 (7 x 21) a	2	a, b	GN	.420″	....	....	281.70	.....	2194.50
8238*§	L	11/U	18 (7 x 26) c	1	b	BV	.405″	....	....	51.15	165.90	331.80
9232‡	M	11/U	14 (19 x 26½) b	2	b	B	.520″	....	....	....	562.50	1125.00
8261**	L	11A/U	18 (7 x 26) c	1	b	BN	.405″	....	....	....	191.25	382.50
9250**	N	22B/U	18 (7 x .0152) d	2	c	BN	.420″	....	....	112.70	386.25	772.50
8259§	L	58A/U	20 (19 x .0071) c	1	c	BV	.195″	$7.00	10.65	20.30	70.80*	125.00*
8240§‡	L	58/U	20 (Solid) b	1	c	BV	.195″	6.60	10.20	17.95	63.70*	125.00*
8262*	L	58C/U	20 (19 x .0071) c	1	c	BN	.195″	....	....	.....	83.90*	138.30*
8263*	L	59B/U	.023 (Solid)‡	1	b	BV	.242″	....	....	.....	105.95*	174.60*
8255*‡	O	62B/U	24 (7 x 32)†‡	1	b	BN	.242″	....	....	.....	125.00*	210.00*
9252*‡	L	122/U	22 (27 x 36) c	1	c	BN	.160″	....	....	24.75	94.10*	155.10*
8216*‡	L	174/U	26 (7 x 34)‡	1	c	BN	.100″	....	....	16.40	59.00	117.95
8218	L	.....	27 (7 x 35)‡	1	c	BV	.150″	....	....	21.85	80.35*	132.45*
8267**‡	L	213/U	13 (7 x 21) b	1	b	BN	.405″	....	....	.....	214.30	429.75
8268*‡	M	214/U	13 (7 x .0296) a	2	a	BN	.425″	....	....	.....	1311.00	2622.00
9273*‡	M	223/U	19 (Solid) a	2	a	BN	.206″	....	....	125.00	513.75*	1027.50*
9222	P	.....	20 (7 x 28) c	2	c	YV	.280″	....	....	40.35	140.95*	.....
9267	P	59/U	20 (Solid) b	2	b	B	.360″	....	....	78.85	301.30	602.55
9239	Q	174/U	26 (7 x 34)	1	c	BV	.101″	....	....	19.15	72.80	125.00
9223	Q	58/U	22 (7 x 50)c	1	c	BV	.195″	....	....	29.25	121.05	199.50
9224	Q	59/U	22 (Solid)	1	b	BV	.242″	....	....	31.60	125.00*	206.25*
9208	L	58/U	13 (7 x 21)b	1	b	♯	.397″	....	....	41.45	130.00	259.95
9201	L	58/U	20 (Solid)b	1	b	♯	.193″	....	....	9.70	37.00*	73.95*
9310‡	Q	58/U	20 (Solid)b	2	c, ♯	BV	.195″	....	....	17.20	62.35*	124.70*
9311‡	Q	58/U	20 (19 x 32)c	2	c, e	BV	.195″	....	....	25.75	96.85*	159.60*

*MIL-C-17D spec. §JAN-C-17A spec. †Semi-solid polyethylene insulation. ‡Bare copper covered steel. **a**—Silver-coated copper. **b**—Bare copper. **c**—Tinned copper. **d**—Bare copper, one cond. has tinned center strand. **e**—Duobond®. BN—Black non-contaminating vinyl. BV—Black vinyl. GN—Gray non-contam. vinyl. YV—Yellow vinyl. B—Black neoprene. *Passes the FR-1 vertical flame test. ‡U.L. Listed. ♯Black or white vinyl jacket.

***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.**

CATV-MATV COAXIAL CABLES

All 100% sweep tested. Solid bare copper covered steel conductors are cellular polyethylene insulated. **Nos. 9233 and 9234:** Duofoil® shield, black or white vinyl jacket; four spirally applied tinned copper covered steel drain wires. **No. 9230:** Duofoil shield, black vinyl jacket; four spirally applied tinned copper covered steel drain wires. **No. 8221:** Bare copper braid shield, gray, white or black vinyl jacket. **Nos. 8212, 8213 and 9274:** Bare copper braid shield, black polyethylene jacket. **No. 8228:** Duofoil shield, white, black or beige vinyl jacket; four spirally applied tinned copper covered steel drain wires. **Nos. 8215 and 9290:** Two bare copper braid shields, black polyethylene jacket. **Nos. 8232 and 8233:** Two bare copper braid shields, black polyethylene jacket. **No. 9244:** Bare copper braid shield with black vinyl jacket. **Nos. 9248 and 9292:** Two Duofoil and one tinned copper braid. **Nos. 9246 and 9247:** Two Duofoil and one tinned copper braid, black vinyl jacket. 9246 without steel messenger. **Nos. 9242, 9243 and 9291:** Duofoil plus aluminum braid shielding; black vinyl jacket; RG-59/U type. **No. 9266:** Two Duofoil and one tinned copper braid shield, black vinyl jacket. **No. 8241:** Bare copper braid shield, black vinyl jacket. **Nos. 9275 and 9276:** Duofoil and aluminum braid. **Nos. 9100, 9283 and 9114:** Duobond shield, aluminum braid and black vinyl jacket. **Nos. 9377 and 9385:** Same, except has galvanized steel messenger. **No. 9282:** Same, except black, biege or white vinyl jacket. **Nos. 9587 and 9590:** Duofoil and aluminum braid shields, flooding protection for direct burial, black polyethylene jacket.

Belden No.	Fig.	AWG	O.D.	Nominal Attenuation* pF/ft.	dB	MHz	Net Each, Spool of 100′	500′	1000′	2000′
9233	A	22	.216″	16.3	6.5	500	.....	$ 51.80*	$ 103.60*	.....
9234	A	20	.225″	17.3	6.2	500	.....	53.55*	107.05	.....
8221	B	20	.242″	16.3	5.8	400	$22.60	74.45*	125.00*	.....
8212	B	20	.242″	17.3	5.6	400	.....	77.75*	128.10*	$256.20
8228	A	18‡	.242″	17.3	5.0	500	18.20	58.00*	115.95*	.....
8215	C	21	.332″	20.5	6.5	400	.....	147.30	294.60	.....
9230	A	14‡	.380″	17.3	3.7	500	.....	132.90	265.80	531.60
8213	B	14‡	.405″	17.3	3.3	400	.....	159.30	318.60	637.20
8232	D	20‡	.315″	17.3	5.6	400	.....	164.50	328.95	657.90
8233	D	14	.475″	17.3	3.3	400	.....	288.70	577.35	1155.00
9244■■	B	22	.240″	21.0	7.1	400	.....	62.45*	124.85*	.....
9275	A	20‡	.242″	17.3	6.2	500	.....	48.90	97.75*	.....
9276	A	20‡	^	17.3	6.2	500	.....	.....	124.70	.....
9248	E	18	.270″	17.3	5.0	500	.....	76.80*	126.60*	.....
9242	E	22	.242″	16.3	9.0	900	.....	50.60*	101.20*	.....
9243	E	20	.242″	17.3	8.6	900	.....	52.45■	104.85*	.....
9266	E	20	.242″	17.3	5.6	400	.....	63.10*	125.00*	.....
8241■■	E	22	.242″	21.0	7.1	400	21.50**	68.35*	125.00*	.....
9291	A	22	.242″	16.3	9.0	900	.....	47.25	94.50*	.....
9282	G	20	.242″	17.3	8.4	900	.....	53.90*	107.75*	.....
9377	F	20	^	17.3	6.2	500	.....	.....	125.00	.....
9100	G	20	.242″	17.3	6.2	500	.....	53.90■	107.75■	.....
9274	G	20	.242″	17.3	6.2	500	.....	70.80	125.00*	.....
9283	G	18	.275″	17.3	5.0	500	.....	66.00*	125.00*	.....
9285	H	18	†	17.3	5.0	500	.....	.....	131.05	.....
9114	G	18	.275″	17.3	5.0	500	.....	66.00■	125.00*	.....
9290	C	18	.290″	17.3	5.0	500	.....	125.00*	243.00	.....
9292	G	14	.405″	17.3	...	...	.....	.....	252.60	.....

*Attenuation per 100′. †.280″ x .415″. ‡Bare Copper. ^.242″ x .375″.**25′ Spool, Net.....**$7.55**; 50′ Spool, Net.....**$12.20** ■■U.L. Listed.

LOW-LOSS RG 58/U AND 8/U TYPES FOR 50-OHM CB SYSTEMS

Individually packaged and fitted with PL-259 connectors on both ends, except for No. 16020 which has connector on one end only. Nos. 16012 and 16021 have PL-259 connectors on one end and spade lugs on other. Black jacket.

Belden No.	Length	Cable Type	Net Each	Belden No.	Length	Cable Type	Net Each
16003	3′	58/U	$4.37	16075	75′	58/U	$12.10
16012	12′	58/U	4.91	16100	100′	58/U	13.90
16015	15′	58/U	6.00	16103	3′	8/U	4.97
16020	20′	58/U	5.25	16125	25′	8/U	12.85
16021	20′	58/U	5.75	16150	50′	8/U	17.65
16025	25′	58/U	6.90	16175	75′	8/U	23.80
16050	50′	58/U	8.85	16200	100′	8/U	28.90

CO-PHASE HARNESSES

Two lengths of RG-59/U cable with PL-259 connectors to receiver and spade lugs to antenna. Vinyl jacket.

Belden No.	Length	Net Each	Belden No.	Length	Net Each
16307	7½′	$7.40	16322	22½′	$11.55

COAXIAL TV CABLE

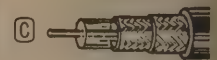
All 100% shielded, low loss foam 59/U type, 75-ohm cables for color or black and white TV installations as well as FM stereo systems. Fitted with F connectors at each end. Nos. 9357–9359, specify white or beige, indoor use; 9360–9362, black, with weatherproof boot for outdoor use.

Belden No.	Length	Net Ea., Lots of 5	Belden No.	Length	Net Ea., Lots of 5	Belden No.	Length	Net Ea., Lots of 5
9357	3′	$3.98	9359	12′	$5.45	9361	75′	$12.75
			9345	25′	6.00			
9358	6′	4.55	9360	50′	8.85	9362	100′	14.35

*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. ■UNREEL PACKAGE ONLY.



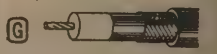


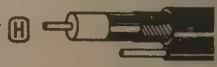


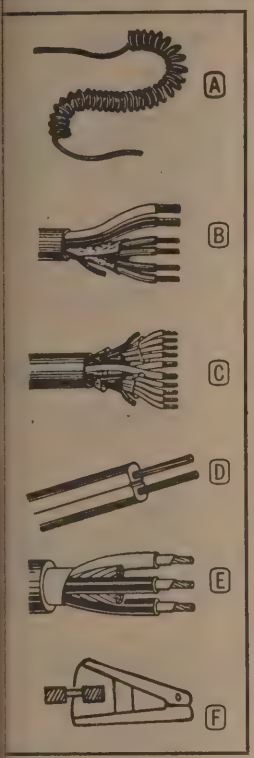












STRIP-IT TOOL (FIG. F)

Belden No. 8196—A precision tool, simple in design and foolproof in operation. Indispensable for electronic technicians, assemblers and electricians. Adjustment bar set with a touch of the finger. Engineered for thousands of operations with one set of blades. Can also be used to cut small size wires.
Net Each..... **$17.75**

CB-AMATEUR RADIO COAXIAL CABLE

Individually packaged and fitted with PL-259 connectors on both ends, RG 58A/U (Models 9350 thru 9352), or 8/U (all others) cables for use with two way systems. Low loss foam; 50 ohms impedance. Outer diameter, .195" for RG 58A/U, and .405" for 8/U. All in black color.

Belden No.	Length	Net Each
9349	3′	$ 7.20
9350	15′	8.40
9346	18′	6.40
9347	20′	7.25
9351	25′	9.60
9352	50′	12.70
9353	25′	16.90
9354	50′	23.85
9355	75′	32.95
9356	100′	40.75

®TM: Beldfoil of Belden.

RETRACTILE CABLES AND CORDS (FIG. A)

MICROPHONE CABLES

No. 8409: Tinned copper, nylon insulated, neoprene jacket. **Nos. 9465, 9466 and 9467:** Same, except spiral tinned copper shield. **Nos. 8415, 8490 and 9415:** Five strands TCW, 16 strands TC, rubber insulated, paper tape, neoprene jacket. **Nos. 8499 and 9499:** Tinned cadmium bronze, rubber insulated, spiraled TC shield, cotton wrap, neoprene jacket. **No. 8605:** Tinned copper, polypropylene insulated, spiraled TC shield, gray PVC jacket. **All Others:** Five strands TCW, 16 strands TC, rubber insulated, double Beldfoil® aluminum-polyester shield with drain wire same as conductors, paper tape, neoprene jacket. **Conductor Color Coding: 1,** white; **2,** black; **3,** red; **4,** green; **5,** blue. Capacitance given is of shielded conductor.

Belden No.	Conductors	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Nominal Cap. pF/Cord	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
9470	2 unshielded	33 (Tinsel)	.105″	½″	.....	10½″	5′	$ 4.00	.....
9468	1 shld, 2 unshld	31 (Tinsel)	.150″	½″	900	20″	10′	11.95	.....
9469	4 unshielded	31 (Tinsel)	.150″	½″	.....	20″	10′	10.50	.....
9466	1 shld, 2 unshld	28 (7 x 36)	.160″	⅝″	1000	12″	6′	5.80	.....
9465	1 shld, 2 unshld	28 (7 x 36)	.175″	1 1/16″	1230	15″	7½′	7.30	.....
9467	1 shld, 2 unshld	28 (7 x 36)	.175″	1 1/16″	1000	12″	6′	6.85	.....
8409	4 unshielded	28 (7 x 36)	.165″	9/16″	.....	12″	6′	5.05	.....
8415	4 unshielded	23 (21 x 36)	.250″	⅞″	.....	11½″	6′	5.90	$ 5.25*
9415	4 unshielded	23 (21 x 36)	.250″	⅞″	.....	30″	15′	12.65	10.80
9499	1 shielded	24 (45 x 40)	.170″	1 1/16″	910	24″	12′	9.30	7.80†
9471	1 shld, 2 unshld	23 (21 x 36)	.250″	⅞″	725	12″	5′	4.88	.....
9472	1 shld, 2 unshld	23 (21 x 36)	.250″	⅞″	950	18″	7½′	6.20	.....
8499	1 shielded	24 (45 x 40)	.170″	1 1/16″	285	7½″	4′	4.26	.....
8605	1 shielded	24 (19 x 36)	.160″	1 1/16″	680	21½″	12′	6.50	.....
8497	1 shfelded,	23 (21 x 36)	.250″	⅞″	510	11½″	6′	6.50	5.35*
9417	2 unshielded	23 (21 x 36)	.250″	⅞″	1200	30″	15′	13.40	10.90
8491	2 ind. shielded,	23 (21 x 36)	.275″	1 1/16″	510	12″	6′	7.50	.....
9416	2 unshielded	23 (21 x 36)	.275″	1 5/16″	1200	30″	15′	17.85	15.15
8490	5 unshielded	23 (21 x 36)	.265″	⅞″	.....	11½″	6′	6.50	.....

*Standard Put-Up of 50. †Standard Put-Up of 10.

75 OHM VIDEO COAXIAL CABLES

Stranded tinned copper conductor, polyethylene insulation, Beldfoil shield, tinned copper serve shield, gray PVC jacket.

9447	1 coaxial	25 (7 x 33)	.242″	1⅛″	42	6″	2′	$3.84	.....
9448	1 coaxial	25 (7 x 33)	.242″	1⅛″	84	12″	4′	5.05	.....
9449	1 coaxial	25 (7 x 33)	.242″	1⅛″	168	24″	8′	7.85	.....

NEOPRENE POWER CONTROL CABLES

Bare copper, paper wrap, rubber insulation, cabled with fillers, paper tape wrap, black neoprene jacket. Straight portion 12″ each end (except 6″ on 8601, 8602, 8603). **Jacket:** .045″ thick; removed 1½″ each end. **Color Coding: 1,** white; **2,** black; **3,** green; **4,** red. U.L. Listed.

Belden No.	No. of Cond.	Type	AWG and (Stranding)	Nominal O.D.	Nominal Coil O.D.	Length Retr.	Length Ext.	Net Each per Standard Put-Up 1	Net Each per Standard Put-Up 15
8601	2	SVO	18 (41 x 34)	.270″	15/16″	12″	6′	$ 4.93	.....
9476	2	SVO	18 (41 x 34)	.270″	15/16″	24″	12′	9.00	$ 7.25
9477	2	SVO	18 (41 x 34)	.270″	15/16″	48″	25′	14.30	11.70
9478	3	SVO	18 (41 x 34)	.275″	15/16″	24″	12′	11.50	9.35
9479	3	SVO	18 (41 x 34)	.275″	15/16″	48″	25′	19.85	17.15
8602	3	SJO	18 (41 x 34)	.360″	1⅜″	12″	6′	7.50	.....
9480	3	SJO	18 (41 x 34)	.360″	1⅜″	24″	12′	13.20	.....
9481	3	SJO	18 (41 x 34)	.360″	1⅜″	48″	25′	21.75	.....
8603	3	SJO	16 (65 x 34)	.370″	1 1/16″	12″	6′	7.55	.....
9484	3	SJO	16 (65 x 34)	.370″	1 1/16″	24″	12′	14.95	.....
9485	3	SJO	16 (65 x 34)	.370″	1 1/16″	48″	25′	25.40	.....
9482	4	SJO	18 (41 x 34)	.385″	1 1/16″	24″	12′	15.20	.....
9483	4	SJO	18 (41 x 34)	.385″	1 1/16″	48″	25′	25.40	.....

VINYL TELEPHONE CORDS

8495: Bare cadmium bronze, vinyl insulated, conductors cabled, paper wrapped, black vinyl jacket. One end stripped 2¾″, spade terminals attached and hook strain relief clamped over jacket. Other end stripped 3 3/16″ and spade terminals attached. **Color Coding: 1,** white; **2,** black; **3,** red. **All Others:** Tinsel conductors, vinyl insulated, vinyl jacket. One end stripped 7″, spade terminals attached and hook strain relief clamped over jacket. Other end has red and black conductors pulled out of jacket and cut to 3″ length, spade terminals attached, molded plastic strain relief, 6¾″ jacket remains on two white conductors, spade terminals attached. Jacket available in black, light beige or white; 8495 black only; 9440 colors, black and light beige only.

8495	3	.....	23 (21 x 36)	.220″	7/16″	10″	4½′	$ 5.95	.....
9443	4	.....	31 (Tinsel)	.195″	¾″	10½″	5′	9.00	$ 7.70
9440	4	.....	31 (Tinsel)	.195″	¾″	22″	10′	11.50	9.50
9441	4	.....	31 (Tinsel)	.195″	¾″	33″	15′	14.65	12.40
9442	4	.....	31 (Tinsel)	195″	¾″	48″	25′	17.85	15.25

JUKE BOX CABLES

No. 8786: Tinned copper, vinyl insulated, 4 conductors, cabled under Beldfoil aluminum-polyester shield; 2 unshld. cond., 22 AWG drain wire; chrome vinyl jacket. **No. 8787:** Tinned copper; 8 polythylene insulated cond., cabled in 2 quads each has transparent polyester tape wrap and tinned copper wire, with Beldfoil aluminum-polyester shield color coded red, green; 2 vinyl insulated conductors; chrome vinyl jacket. **No. 8784:** 10 unshielded, tinned copper conductors, color coded vinyl insulation, cabled, chrome vinyl jacket. Pass FR-1 flame test.

Belden No.	Fig.	No. Cond.	AWG and (Stranding)	Nom. O.D.	WV	Net Each, Spool of 100′	Net Each, Spool of 500′
8786	B	6	2-22 (7x30), 4-24 (7x32)	.256″	350	$31.60	$125.00*
8787	C	10	8-24 (7x32), 2-22 (7x30)	.290″	350	.....	213.75*
8784§	....	10	2-16 (26x30), 1-20 (10x30), 7-22 (7x30)	.299″	300	.....	201.75*

§U.L. Listed.

***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.**

CLOSED CIRCUIT TELEVISION CABLES THAT ANSWER MOST CCTV AND VTR CABLE APPLICATION NEEDS

Belden No. 9254* (Fig. A)—13-conductor camera extension cable. Recommended for remote control, closed circuit and cue line applications. Has two 20 AWG (10 x 30) tinned copper, vinyl insulated, color coded conductors. Nine 22 AWG (7 x 30) tinned copper, vinyl insulated, 2 conductors cabled, Beldfoil® shield, 2 conductors cabled unshielded, 5 conductors unshielded. Two foam polypropylene insulated coaxial cables. Nominal impedance, 75 ohms, color coded. Tinned copper braid shield. Chrome vinyl jacket, .550" nominal O.D. UL Listed, Style 2497.
100 ft., Net.....**$176.75** **250, 500, 1000 or 1500 ft.,** Net per 1000 ft.*.....**$1489.50**

Belden No. 9259 (Fig. B)—RG-59 type coax cable with stranded center conductor. Recommended for camera to recorder to monitor connections. Stranded center conductor adds the flexibility needed to resist severe twisting, bending and other stresses which occur in many CCTV applications. Has 22 AWG stranded bare copper conductor, cellular polyethylene insulation, bare copper braid shield, black vinyl jacket, 75 ohm, .242" nominal O.D. UL Listed, Style 1354.
50 ft., Net **$16.60** **100 ft.,** Net **$28.25** **500 ft.,** Net **$97.40*** **1000 ft.,** Net **$160.50***

Belden No. 9260 (Fig. C)—6-conductor shielded remote control cable. Recommended for applications where remote switching of video camera function is required. Six 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, black, white, red, green, orange, blue. Overall tinned copper braid shield. Overall gray vinyl jacket, .305" nominal O.D. UL Listed, Style 2464.
50 ft., Net..**$38.60** **100 ft.,** Net..**$63.80** **500 ft.,** Net..**$214.20** **1000 ft.,** Net **$428.40**

Belden No. 9261 (Fig. D)—12-conductor shielded remote control cable. Recommended for applications where remote switching of video camera function is required. Has twelve 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, color coded. Overall tinned copper braid shield. Overall gray vinyl jacket, .410" nominal O.D. UL Listed, Style 2464.
50 ft., Net..**$66.20** **100 ft.,** Net..**$105.60** **500 ft.,** Net..**$362.05** **1000 ft.,** Net..**$724.05**

Belden No. 9262 (Fig. E)—13-conductor remote control and video cable. Recommended for use in installations requiring external drive signals, tallies, intercom, switching and video operations. Has twelve 20 AWG (7 x 28) tinned copper conductors, vinyl insulated, color coded. One 75-ohm coax, 22 AWG stranded bare copper conductor, foam polyethylene insulated, bare copper braid shield, polyester tape wrapped. Overall tinned copper braid shield. Overall gray vinyl jacket, .460" nominal O.D. UL Listed.
50 ft., Net..**$87.00** **100 ft.,** Net..**$125.00** **500 ft.,** Net..**$503.25** **1000 ft.,** Net..**$1006.50**

Belden No. 9265—Siamese type cable, RG59/U type and twisted pair, RG59/U has 1 conductor 22 AWG BC coax with cellular polyethylene insulation, bare copper shield. Nom. impedance, 75 ohms. Twisted pair is 2 conductor, 22 AWG TC with vinyl insulation, Beldfoil aluminum-polyester shield, black vinyl jacket. Nom. O.D., .242" x .445".
500 ft., Net.....**$164.70** **1000 ft.,** Net.....**$329.40**

TV CAMERA CABLES

Belden No. 8280* (Fig. F)—28-conductor camera cable. Four 18 AWG (16 x 30) tinned copper, vinyl insulated, color coded; 21-22 AWG (7 x 30) tinned copper, vinyl insulated, cabled in 3 groups of 7, color coded; 3 coaxial cables color coded, nominal impedance 51 ohms; tinned copper braid shield; chrome vinyl jacket .750" nom. O.D. U.L. Listed.
100 ft., Net.....**$330.60** **250, 500 or 1000 ft.,** Net per 1000 ft.*.....**$2829.00**

Belden No. 8286*—Similar to above, but nom. impedance 75 ohms. Additionally, the group of four 18 AWG and a group of seven 22 AWG conductors are separately wrapped with Beldfoil aluminum-polyester shield with stranded drain wire and polyester tape over each group. Jacket is black Hypalon®, .730" O.D.
100 ft., Net.....**$330.60** **250, 500 or 1000 ft.,** Net per 1000 ft.*.....**$2832.00**

Belden No. 9253*—Recommended for transistorized TV cameras. UL listed. Similar to Fig. G except with shield. 28-conductor TV camera cable has four 18 AWG (16 x 30) tinned copper, vinyl insulated, color coded conductors, Beldfoil® aluminum-polyester shield around 4 conductors with stranded drain wire, polyester tape over this shielded group. 21-22 AWG (7 x 30) tinned copper, vinyl insulated, cabled in three groups of 7, color coded, one group of 7 has Beldfoil aluminum-polyester shield overall with a stranded drain wire, polyester tape over this shielded group. Three coaxial cables, nom. impedance 75 ohms. RG 59/U type with foam polypropylene insulation. Tinned copper braid shield, chrome vinyl jacket .810" nom. O.D. U.L. Listed.
100 ft., Net.....**$379.70** **250, 500 or 1000 ft.,** Net per 1000 ft.*.....**$3223.50**

Belden No. 8282* (Fig. G)—13-conductor TV eye cable. Eight 22 AWG (7 x 30) tinned copper, vinyl insulated, color coded; one 22 AWG (7 x 30) polyethylene insulated; two 18 AWG (16 x 30) tinned copper conductors, vinyl insulated, black and red; one RG-58A/U 50-ohm coax cable, one 72-ohm coax, stranded conductor, polyester tape wrapped, chrome vinyl jacket .470" nom. O.D.
100 ft., Net.....**$146.05** **250, 500, 1000 or 1500 ft.,** Net per 1000 ft.*.....**$1233.00**

®TM: Beldfoil of Belden; Hypalon of DuPont. *One piece spools; length may vary +20% −0% from length shown. *Passes FR-1 vertical flame test.

PAIRED TELEPHONE CABLES

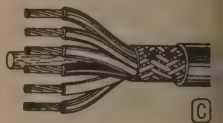
Tinned solid copper conductors, vinyl insulated, pairs twisted, silver gray vinyl jacket. U.L. Listed.

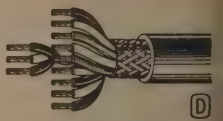
Belden Number	No. of Pairs	AWG	O.D., Ins.	Net Each, Spools of		
				100′	500′	1000′
9561	1	24	.150	$ 7.90	$ 30.60	$ 61.15
9562	2	24	.195	13.65	51.35*	102.65*
9566	6	24	.285	30.05	124.85*	205.80*
9568	8	24	.300	38.70	130.00	259.95
9570	10	24	.350	47.15	159.30	318.60
9585	25	24	.495	125.00	463.50	927.00

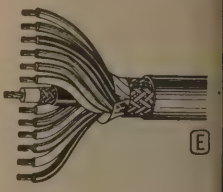
***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE**





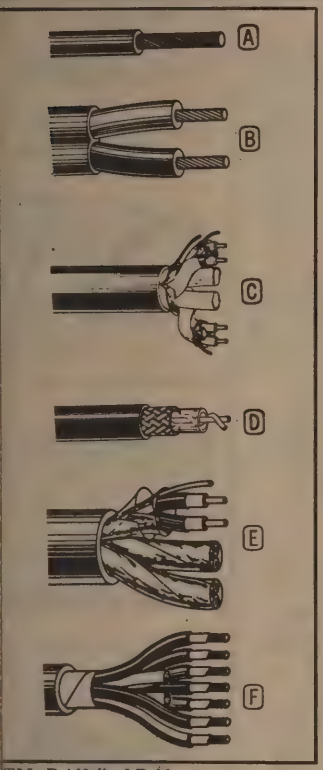












TM: Beldfoil of Belden.

PRIMARY WIRE, MARINE AND AUTO

Bare copper, vinyl insulated. S.A.E. type G.P.T.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Color Code	Net Each, Spool of 100′	Net Each, Spool of 500′
8685	A	16 (19 x 29)	.102″	Black	$12.75	.....
8684	A	14 (19 x 27)	.117″	Green	17.50	.....
8683	A	12 (19 x 25)	.142″	Red	26.25	.....
8682	A	10 (19 x 23)	.175″	White	37.40	.....
8681	A	8 (19 x 21)	.219″	Chrome	57.15	.....
8680	A	6 (37 x 21)	.290″	Chrome	115.95	.....

DUPLEX PRIMARY WIRE

Tinned copper, vinyl insulated, conductors parallel, chrome vinyl jacket.

8677	B	16 (19 x 29)	.164″ x .276″	Brn, Red	$ 26.40	$110.60
8675	B	14 (19 x 27)	.189″ x .326″	Brn, Red	33.70	126.90
8673	B	12 (19 x 25)	.213″ x .384″	Brn, Red	49.00	183.10
8678	B	10 (19 x 23)	.243″ x .436″	Brn, Red	69.25	282.45
9679	B	8 (19 x 21)	.317″ x .572″	Brn, Red	125.00	571.60

7 MM IGNITION WIRE

Tinned iron wire conductor, EPDM rubber insulated and high temperature jacket.

8689*	C	20 (7 x 28)	.278″	.....	$29.70	.....

*Passes FR-1 vertical flame test.

DATA, INSTRUMENTATION AND COMPUTER CABLES

Belden No. 9851 (Fig. C)—200 ohm video twinax. Two conductor, 29 AWG solid silver coated copper covered steel. Cellular flame retardant polyethylene insulation. Beldfoil® shield, overall. Chrome vinyl jacket. Nom. O.D., .245″. U.L. Listed, Style 2606.
100′ Spool, Net..**$30.40** **500′ Spool,** Net..**$125.00** **1000′ Spool,** Net..**$224.10**

Belden No. 9269 (Fig. D)—IBM No. 323921. Type 62A/U. 22 AWG solid bare Copper-covered steel. Semi-solid polyethylene insulation. Bare copper shield. Black, non-contaminating vinyl jacket. Nom. O.D., .242″. U.L. Listed. Style 1354.
500′ Spool, Net..**$90.30*** **1000′ Spool,** Net..**$148.80*** **2000′ Spool,** Net..**$297.60**

Belden No. 9268* (Fig.D)—IBM No. 5252750. Type 62A/U. 22 AWG solid bare Copper-covered steel. Semi-solid flame retardant polyethylene insulation. Bare copper shield. Black vinyl jacket. Nom. O.D., .260″. U.L. Listed, Style 1354.
500′ Spool, Net..**$125.00*** **1000′ Spool,** Net..**$211.20*** **2000′ Spool,** Net..**$422.40**

MULTIPLE UNPAIRED TYPE SO NEOPRENE CONTROL CABLES (FIG. F)

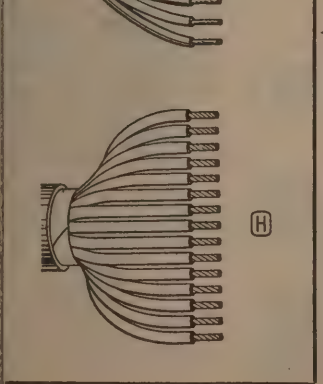
General purpose industrial and utility control applications, remote control of automatic electric equipment and motor control. Heavy duty neoprene jacket offers excellent resistance to oils, acids, oxidation, weathering, ozone abrasion and impact. Bare copper, 16 AWG (65 x 34), rubber insulated, conductors cabled with fillers, black neoprene jacket. Suggested Working Voltage: 600 V.
Color Coding available on request.

Belden No.	*	Nom. O.D.	Net Each, Spool of 100′	Net Each, Spool of 500′	Net Each, Spool of 1000′
9420*	5	.520″	$106.40	$424.50	$849.00
9422*	7	.560″	125.00	559.50	1119.00
9424*	9	.610″	171.00	712.50	1425.00
9425*	12	.720″	230.65	975.00	1948.50
9427*	16	.800″	289.20	1221.00	2440.50
9429*	20	.880″	355.90	1522.50	.....

*No. of conductors. U.L. Listed.
*Passes FR-1 vertical flame test.

MULTIPLE UNPAIRED CONTROL AND AUDIO CABLES

nned copper, vinyl insulated, conductors
bled, chrome vinyl jacket. Suggested
orking Voltage: 22 AWG, 200 V; 18
WG, 400 V; 16 AWG and 14 AWG,
0 V. **Color Coding available on request.**
ss FR-1 vertical flame test.



Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 15′	25′	100′	250′	500′	1000′
8444*	G	4	22 (7 x 30)	.178″	....	$4.59	$14.15	$28.85	$ 57.70*	$115.40*
8445*	G	5	22 (7 x 30)	.190″	....	5.55	16.60	34.40	68.80*	125.00*
9430*	G	7	22 (7 x 30)	.210″	....	....	.....	.....	107.85*	177.75*
9421*	G	8	22 (7 x 30)	.229″	....	....	31.70	.....	125.00*	206.55*
9423*	G	9	22 (7 x 30)	.229″	....	....	35.15	.....	125.05*	250.05*
8456*	G	10	22 (7 x 30)	.260″	....	....	39.50	.....	145.50*	291.00*
8457*	G	12	22 (7 x 30)	.260″	....	....	44.45	.....	165.40*	330.75*
8458*	G	15	22 (7 x 30)	.320″	....	....	70.00	.....	254.50	508.95
9431*	G	20	22 (7 x 30)	.345″	....	....	88.30	.....	328.80	657.60
8459*	G	25	22 (7 x 30)	.370″	....	....	109.30	.....	411.75	823.50
9432*	G	30	22 (7 x 30)	.400″	....	....	125.00	.....	472.50	945.00
9433*	G	40	22 (7 x 30)	.455″	....	....	160.60	.....	625.50	1251.00
9434*	G	50	22 (7 x 30)	.500″	....	....	.....	.....	783.00	1566.00
9444*	G	4	20 (10 x 30)	.208″	....	....	17.40	.....	75.55*	125.00*
9445*	G	5	20 (10 x 30)	.230″	....	....	21.30	.....	91.55*	150.90*
9439*	G	7	20 (10 x 30)	.250″	....	....	35.05	.....	127.20*	254.40*
9455*	G	9	20 (10 x 30)	.310″	....	....	46.35	.....	171.00	342.00
9457*	G	12	20 (10 x 30)	.330″	....	....	57.10	.....	214.80	429.60
9458*	G	15	20 (10 x 30)	.380″	....	....	74.75	.....	286.05	572.10
8446*	G	6	4-22 (7 x 30) 2-18 (16 x 30)	.232″	$6.70	....	29.50	$63.80	125.00*	210.15*
8447*	G	7	5-22 (7 x 30) 2-18 (16 x 30)	.250″	....	....	35.05	74.45	125.00*	245.25*
8448*	G	8	6-22 (7 x 30) 2-18 (16 x 30)	.254″	7.70	....	37.15	80.85	133.20*	266.40*
9405*	G	8	6-18 (16 x 30) 2-16 (26 x 30)	.377″	....	....	.....	125.00	222.10	444.15
8449*	G	9	7-22 (7 x 30) 2-18 (16 x 30)	.265″	8.10	....	39.25	87.45	144.15*	288.30*
8465*	G	5	18 (16 x 30)	.286″	....	....	31.60	71.55	125.00*	235.65*
8467*	G	7	18 (16 x 30)	.324″	....	....	52.35	117.25	193.20	386.40
8469*	G	9	18 (16 x 30)	.379″	....	....	67.10	128.25	256.45	512.85
8466*	G	12	18 (16 x 30)	.412″	....	....	92.40	183.60	367.15	734.25
8468*	G	15	18 (16 x 30)	.490″	....	....	125.00	.....	488.25	976.50
8619*	G	19	18 (16 x 30)	.505″	....	....	148.05	.....	578.25	1156.50
9626	H	25	18 (16 x 30)	.600″	....	....	191.10	.....	744.75	1489.50
8620	H	4	16 (19 x 29)	.375″	....	....	49.50	.....	190.00	379.95
9620	H	5	16 (19 x 29)	.405″	....	....	65.00	.....	222.60	445.20
8621	H	7	16 (19 x 29)	.455″	....	....	91.20	.....	334.35	668.70
9621	H	9	16 (19 x 29)	.510″	....	....	110.75	.....	413.25	826.50
8622	H	12	16 (19 x 29)	.600″	....	....	125.00	.....	564.75	1129.50
8623	H	15	16 (19 x 29)	.685″	....	....	199.50	.....	814.50	1627.50
8624	H	19	16 (19 x 29)	.715″	....	....	244.95	.....	987.00	1972.50
9622	H	25	16 (19 x 29)	.820″	....	....	.....	.....	1134.00	2266.50
8627	H	4	14 (19 x 27)	.495″	....	....	88.65	.....	332.25	664.50
9623	H	5	14 (19 x 27)	.560″	....	....	107.20	.....	396.75	793.50
8628	H	7	14 (19 x 27)	.630″	....	....	125.00	.....	570.75	1141.50
8629	H	12	14 (19 x 27)	.770″	....	....	241.45	.....	1000.50	1999.50

*U.L. Listed.
*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE

TEST PROD WIRE (FIG. A)

Extremely limp and flexible wire has high dielectric strength. Tinned copper 18 AWG, 65 x 36 stranded, separator, rubber insulated, specify red or black. No. 8897 made per MIL-W-13169. Miniature type 8890, 24 AWG, 45 x 40 stranded tinned copper, cotton separator, rubber insulated, specify red or black.

Belden No.	Nom. O.D.	Breakdown Volts	Suggested Work V‡	Net Each, Spool of 10′	14′*	25′	100′	500′	1000′
8899†	.144″	20,000	5,000	$3.11	$3.49	$4.93	$15.95	$58.00*	$115.95*
8897	.144″	20,000	5,000	....	....	....	.....	66.00*	.....
8898	.230″	29,000	10,000	4.55	....	8.10	21.20	87.95	.....
8890	.066″	10,000	1,000	....	....	4.10	10.10	42.90	.....

*7 ft. of red; 7 ft. of black. †25′; 100′ and 500′ also available in blue, white, gray, green or yellow. ‡For intermittent duty only.

COILED TEST PROD WIRE (FIG. B)

Coiled test prod wire, prevents that cluttered up work bench. Retracted length 8 inches, stretched length, 5 feet. Tinned copper wire, rubber insulated, red and black. Complete with prods. AWG and stranding, 20 (42 x 36). Nom. O.D., .173″. Breakdown, 20,000 V; suggested working, 5,000 V.

Belden No. 8878—One red and one black. Net per Pair. **$13.30**

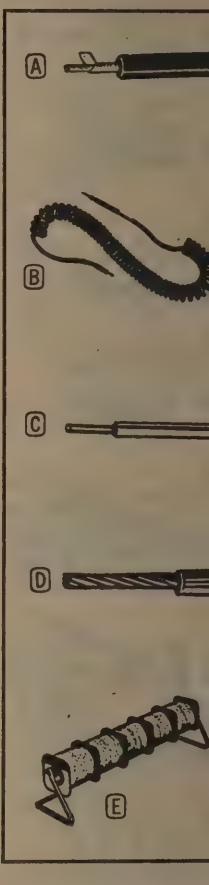
Belden No. 8879—Same as above, less prods. Net per Pair **5.65**

UL HOOK-UP AND LEAD WIRES

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of 100′	500′	1000′	5000′#
UL STYLE 1007, CSA TYPE TR-64, RATED 300 V, 80° C								
Tinned copper, vinyl insulation. Rated to 600 V peak for electronic circuits.								
9930	D	30 (7 x 38)	.044″	1–5, 7–10, 13	$4.53	.....	$30.95	.....
9928	D	28 (7 x 36)	.047″	1–5, 7–10, 13	4.28	.....	28.80	.....
9926	D	26 (7 x 34)	.051″	1–5, 7–10, 13	4.53	.....	30.25	.....
9923	D	24 (7 x 32)	.056″	1–5, 7–10, 13	4.68	.....	31.30	.....
9921	D	22 (7 x 30)	.062″	1–5, 7–10, 13	5.35	.....	37.35	.....
9922*	D	22 (7 x 30)	.062″	1–5, 7–19, 13	....	.....	.....	$36.40
9919	D	20 (7 x 28)	.069″	1–5, 7–10, 13	6.50	.....	44.60	.....
9920*	D	20 (7 x 28)	.068″	1–5, 7–10, 13	....	.....	.....	44.95
9918*	D	18 (16 x 30)	.079″	1–5, 7–10, 13	7.00	.....	50.80	47.15
9916	D	16 (26 x 30)	.092″	1–5, 7–10, 13	9.85	.....	76.65	.....
UL STYLE 1015, CSA TYPE TEW, RATED 600 V, 105° C								
Tinned copper, vinyl insulation. Rated to 2500 V peak for electronic circuits.								
9720*	C	24 (Solid)	.083″	2, 4, 5, 8–10, 13	....	.....	.....	$25.15
9924*	D	24 (7 x 32)	.088″	1–5, 9, 10, 13	$ 5.50	.....	$39.35	.....
9722*	C	22 (Solid)	.088″	2, 4, 5, 8–10, 13	....	.....	.....	30.95
8920*	D	22 (7 x 30)	.093″	1–5, 9, 10, 13	5.90	.....	42.45	33.70
9822*	D	22 (7 x 30)	.093″	2, 4, 5, 9, 10, 13	....	.....	.....	38.40
8919*	D	20 (10 x 30)	.100″	1–5, 9, 10, 13	7.25	.....	53.55	43.70♦
9820*	D	20 (7 x 28)	.099″	2, 5, 9, 10, 13	....	.....	.....	47.70♦
8918*	D	18 (16 x 30)	.110″	1–5, 9, 10, 13	8.95	.....	63.90	58.10♦
9818*	D	18 (7 x 26)	.105″	2, 5, 9, 10	....	.....	.....	64.45♦
8917*	D	16 (26 x 30)	.123″	1–5, 9, 10, 13	11.05	$ 46.60	95.00	77.20♦
8916*	D	14 (41 x 30)	.138″	1–5, 9, 10, 13	15.75	65.90	.....	.....
9912*	D	12 (65 x 30)	.158″	1–5, 9, 10, 13	26.05	46.00^	.....	.....
9910*	D	10 (65 x 28)	.183″	2, 4, 9, 10	36.60	64.65^	.....	.....
9908*	D	8 (84 x 27)	.250″	2, 4, 9, 10	63.55	113.70^	.....	.....
UL STYLE 1061, CSA TYPE SR-PVC, RATED 300 V, 80° C								
Tinned copper, semi-rigid vinyl insulation. Suitable for wire-wrap applications.								
9978*	C	30 (Solid)	.030″	1–5, 7–10, 13	$4.26	.....	$28.60	.....
9987*	D	30 (7 x 38)	.032″	1–5, 7–10, 13	4.53	.....	30.95	.....
9977*	C	28 (Solid)	.033″	1–5, 7–10, 13	3.40	.....	22.95	.....
9986*	D	28 (7 x 36)	.035″	1–5, 7–10, 13	4.28	.....	28.80	.....
9976*	C	26 (Solid)	.036″	1–5, 7–10, 13	2.95	.....	19.70	.....
9985*	D	26 (7 x 34)	.039″	1–5, 7–10, 13	4.53	.....	30.25	.....
9975*	C	24 (Solid)	.040″	1–5, 7–10, 13	3.13	.....	20.75	.....
9984*	D	24 (7 x 32)	.044″	1–5, 7–10, 13	4.68	.....	31.15	.....
9983*	D	22 (7 x 30)	.050″	1–5, 7–10, 13	5.25	.....	33.70	.....
9982*	D	20 (7 x 28)	.057″	1–5, 7–10, 13	6.50	.....	40.80	.....
9981*	D	18 (19 x 30)	.066″	1–5, 7–10, 13	6.85	.....	51.55	.....
9980*	D	16 (19 x 28)	.078″	1–5, 7–10, 13	8.75	.....	68.25	.....
UL STYLE 1095, RATED 300 V, 80° C								
Tinned bonded copper, vinyl insulation.								
9828*	D	28 (7 x 36)	.043″	2, 4, 5, 8–10, 13	$4.48	.....	$32.40	$30.40
9826*	D	26 (7 x 34)	.047″	2, 4, 5, 8–10, 13	5.10	.....	36.80	34.05
9824*	D	24 (7 x 32)	.053″	2, 4, 5, 8–10, 13	4.73	.....	34.05	31.30
UL STYLE 3046, CSA TYPE CL903, RATED 300 V, 90° C								
Tinned copper, neoprene insulation.								
9604	D	18 (16 x 30)	.142″	2, 4, 5, 6, 8–10	$14.40	.....	$105.60	$ 83.90
9605	D	16 (26 x 30)	.155″	2, 4, 5, 6, 8–10	17.05	.....	123.25	99.20♦
9606	D	14 (41 x 30)	.170″	2, 4, 5, 6, 8–10	23.75	.....	150.30	126.00♦
9607	D	12 (65 x 30)	.190″	2, 4, 5, 6, 8–10	31.95	.....	198.90	181.50I
UL STYLE 3190 CSA TYPE CL1052								
Tinned copper, Hypalon insulation.								
9600	D	22 (7 x 30)	.093″	2, 4, 5, 8–10, 13	$ 9.05	.....	$ 65.00	$58.45
9601	D	20 (10 x 30)	.100″	2, 4, 5, 8–10, 13	10.75	.....	76.65	70.10
9602	D	18 (16 x 30)	.110″	2, 4, 5, 8–10, 13	12.20	.....	86.85	78.30
9603	D	16 (26 x 30)	.123″	2, 4, 5, 8–10, 13	15.85	.....	111.75	99.05

†Stock Colors: See table below right. #Per 1000′. ♦4000′ spool. I3000′ spool. ^250′ spool. •Passes FR-1 vertical flame test.

***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.**



HOOK-UP WIRE KI (FIG. E)

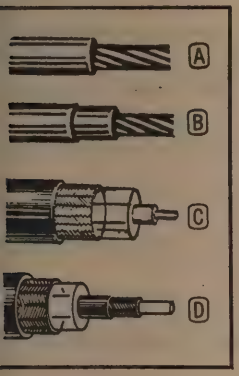
Assortments of hook-up colors in portable metal penser rack. One spool of color is supplied. Pass the 1 vertical flame test.

Beld. No.	Wire Type and No.	Stock Colors†
8816	18 (Strnd.) 8522-25*	1-6, 9, 10
8822	20 (Solid) 8529-25*	1-10
8823	20 (Solid) 8529-100‡	2, 5, 6, 9, 10
8824	20 (Strnd.) 8523-25*	1-6, 9, 10
8825	20 (Strnd.) 8502-100‡	2, 4, 5, 9, 10
9530	22 (Solid) 8530-25*	1-10
9531	22 (Strnd.) 8524-100‡	2, 5, 6, 9, 10

*25 ft. spools. ‡100 ft. spo

†STOCK COLORS

Code No.	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Light blue
7	Violet (purple
8	Gray (slate)
9	White
10	Black
13	Dark blue



MIL SPEC HOOK-UP WIRE

MIL-W-16878 TYPE B VINYL (FIG. A)

Tinned copper, vinyl insulated for general purpose wiring with high resistance to moisture and solvents. Rated 600 VDC at 105° C. Pass the FR-1 vertical flame test.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of			
					Solid Colors		Striped Colors	
					100′	1000′	100′	1000′
8599	B-32	32 (7 x 40)	.029″	1–10	$6.75	$47.50	....	.....
8598	B-30	30 (7 x 38)	.032″	1–10	5.40	37.90	....	.....
8597	B-28	28 (7 x 36)	.035″	1–10	5.30	34.40	....	.....
8505	B-26	26 (7 x 34)	.039″	1–10, 14–22	5.25	37.70	$5.45	$39.50
8509	B-24	24 (19 x 36)	.045″	1–10	6.75	42.45	....	.....
8504	B-24	24 (7 x 32)	.044″	1–10, 14–22	5.40	34.95	5.55	36.80
8503	B-22	22 (7 x 30)	.050″	1–10, 14–22	5.90	38.05	6.05	39.90
8502	B-20	20 (7 x 28)	.058″	1–10, 14–22	7.20	45.90	7.35	47.70
8501	B-18	18 (7 x 26)	.068″	1–10, 14–22	7.70	58.45	7.90	60.25
8500	B-16	16 (19 x 29)	.077″	1–10, 14–22	9.75	77.35	9.95	79.20

MIL-W-16878 TYPE B VINYL-NYLON JACKET—RATED 600 VDC AT 115° C (FIG. B)

Tinned copper conductor, vinyl insulated with nylon jacket overall. Pass the FR-1 vertical flame test.

Belden No.	Type Designation	AWG and (Stranding)	Nom. O.D.	Stock Colors†	Net Each, Spool of	
					100′	1000′
8515	B-26	26 (7 x 34)	.045″	1–10	$ 7.35	$51.90
8519	B-24	24 (19 x 36)	.051″	1–10	7.70	57.35
8514	B-24	24 (7 x 32)	.050″	1–10	7.15	49.50
8518	B-22	22 (19 x 34)	.057″	1–10	8.70	65.55
8513	B-22	22 (7 x 30)	.056″	1–10	7.85	55.90
8517	B-20	20 (19 x 32)	.065″	1–10	9.30	70.80
8512	B-20	20 (7 x 28)	.064″	1–10	8.20	63.00
8516	B-18	18 (19 x 30)	.075″	1–10	11.60	90.30
8511	B-18	18 (7 x 26)	.074″	1–10	10.40	78.30
8510	B-16	16 (19 x 29)	.083″	1–10	10.85	99.20

MIL-W-76 TYPE MW VINYL (FIG. A)

Tinned copper conductor, vinyl insulated, medium wall. Rated 1000 V at 80° C. Stock Colors†: 25′, colors 1–13; all others, 1–22 except as noted. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-76 Type Designation	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of				
				Solid Colors			Striped Colors	
				25′	100′	1000′	100′	1000′
8538	MW-C 24(1)U	24 (Solid)	.054″	....	$ 4.90	$ 26.95	$ 5.10	$ 28.80
8525	MW-C 24(7)U	24 (7 x 32)	.058″	....	5.15	34.05	5.35	35.85
8530§	MW-C 22(1)U	22 (Solid)	.059″	$2.53	4.90	30.95	5.10	32.80
8524§	MW-C 22(7)U	22 (7 x 30)	.064″	2.64	5.75	39.90	5.95	41.70
8529	MW-C 20(1)U	20 (Solid)	.066″	2.69	5.85	38.80	6.00	40.60
8523§	MW-C 20(7)U	20 (10 x 30)	.070″	3.11	6.75	45.35	6.90	47.15
8528‡	MW-C 18(1)U	18 (Solid)	.074″	....	7.55	53.35	....	.....
8522§	MW-C 18(16)U	18 (16 x 30)	.080″	3.40	7.95	59.70	8.15	61.55
8521	MW-C 16(19)U	16 (26 x 30)	.098″	....	11.20	85.75	11.40	87.55
8520	MW-C 14(19)U	14 (41 x 30)	.111″	....	15.85	125.00	16.05	125.00
8527*	MW-C 12(19)U	12 (65 x 30)	.130″	....	23.95	158.85	....	.....
8531*	MW-C 16(1)U	16 (Solid)	.085″	....	9.30	74.80	....	.....

Stock Colors†: *1–10 only; ‡1–13 only; §1–30.

MIL-W-16878 IRRADIATED PVC (FIG. A)

Tinned copper, irradiated PVC insulated. UL listed. Meets MIL-W-16878 as follows: (At 105° C max.) Type B, 600 V rms max. Type C, 1000 V rms max. **AWM:** Style 1429, 300 V peak for electronic use only, 80° C max. Style 1430, 300 V rms (600 V peak for electronic use only), 105° C max. Stock Colors†: 1 thru 10. Pass the FR-1 vertical flame test.

Belden No.	MIL-W-16878 Type	Style No.	AWG and (Stranding)	Nom. O.D.	Net Ea. Spool of 1000′
83402§	B-26*	1429	26 (Solid)	.039″	$39.50
83403§	B-24*	1429	24 (Solid)	.044″	40.35
83404§	B-22*	1429	22 (Solid)	.050″	44.60
83412§	B-26	1429	26 (7 x 34)	.039″	43.70
83413§	B-24	1429	24 (7 x 32)	.044″	44.80
83414§	B-22	1429	22 (7 x 30)	.050″	50.70
83415§	B-20	1429	20 (7 x 28)	.058″	63.10
83416§	B-18	1429	18 (7 x 26)	.068″	79.35
83423§	B-24	1429	24 (19 x 36)	.045″	53.05
83424§	B-22	1429	22 (19 x 34)	.051″	60.60
83425‡§	B-20	1430	20 (19 x 32)	.059″	64.55
83443§	C-24	1430	24 (7 x 32)	.058″	51.15
83444§	C-22	1430	22 (7 x 30)	.064″	62.00
83445§	C-20	1430	20 (7 x 28)	.072″	72.35
83446‡§	C-18	1430	18 (7 x 26)	.082″	84.90

*Solid cond. not recog. in MIL-W-16878. ‡Stock Color†: 9 only. ᴬU.L. Listed.

MIL-W-16878 TEFLON* HOOK-UP WIRE (FIG. A)

Concentrically stranded silver coated copper conductor insulated with extruded TFE Teflon. Pass FR-1 vertical flame test. Colors 1 thru 10. ᴬU.L. Listed *Registered DuPont TM.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of*		
				100′	500′	1000′
TYPE EE, 1000 V, 200° C						
83023ᴬ	EE-24	24 (19 x 36)	.053″	$30.75	$168.85♦	.....
83025ᴬ	EE-22	22 (7 x 30)	.058″	28.50	156.55♦	.....
83026ᴬ	EE-22	22 (19 x 34)	.060″	34.50	189.40♦	$189.40
83027ᴬ	EE-20	20 (19 x 32)	.068″	42.80	234.55♦	234.55
83028ᴬ	EE-20	20 (7 x 28)	.066″	37.15	203.95♦	.....
83029ᴬ	EE-18	18 (19 x 30)	.079″	54.45	299.05♦	299.05
83030ᴬ	EE-16	16 (19 x 29)	.086″	65.00	356.85♦	356.85
TYPE ET, 250 V, 200° C, MINIATURE						
83041ᴬ	ET-32	32 (7 x 40)	.021″	$16.85	.....	$112.30
83043ᴬ	ET-30	30 (7 x 38)	.024″	18.95	.....	125.00
83045ᴬ	ET-28	28 (7 x 36)	.027″	19.65	.....	125.00
83046ᴬ	ET-26	26 (7 x 34)	.031″	20.40	.....	125.80
83047ᴬ	ET-24	24 (7 x 32)	.036″	23.85	.....	129.90
83048ᴬ	ET-24	24 (19 x 36)	.037″	29.60	.....	162.70
83049ᴬ	ET-22	22 (7 x 30)	.042″	24.85	.....	136.45
83050ᴬ	ET-22	22 (19 x 34)	.044″	33.25	.....	182.25

*Spools may contain more than one piece, min. lgth. of any one piece is 25 ft.: 500′ and 1000′ lgths. may vary ±10%; 100′ lgths. exact. ᴬU.L. Listed. ♦Per 1000 ft.

†STOCK COLORS

Specify color when ordering. First color in stripe combination is body color; second and third are stripes.

Code No.	Color Comb.	Code No.	Color Comb.	Code No.	Color Comb.
1	Brown	11	Tan	21	Wht/Gray
2	Red	12	Pink	22	Wht/Violet
3	Orange	13	Dark Blue	23	Wht/Blk/Red
4	Yellow	14	Wht/Blk	24	Wht/Blk/Grn
5	Green	15	Wht/Red	25	Wht/Blk/Yel
6	Light Blue	16	Wht/Grn	26	Wht/Blk/Blue
7	Violet (purple)	17	Wht/Yel	27	Wht/Blk/Brn
8	Gray (slate)	18	Wht/Blue	28	Wht/Blk/Orng
9	White	19	Wht/Brn	29	Wht/Blk/Gray
10	Black	20	Wht/Orng	30	Wht/Blk/Violet

C HI-VOLTAGE CABLE

elden No. 8870 (Fig. C)—Solid pper covered steel, 22 AWG; nductive polyethylene with orona-Guard™ polyethyene sulation; tinned copper braid quipotential sheath; black olyethylene jacket. Nom. O.D., 40″. Rated 160 kV breakdown, 0,000 V working.

0′ Spool, Net....**$125.00**
0′ Spool, Net.... **279.90**

elden No. 8871 (Fig. D)—inned copper braid (CMA quiv. to 16 AWG) over solid olyethylene rod, black conduc- ve polyethylene with Korona- uard, clear polypropylene in- ulation, tinned copper braid, ack polyethylene jacket. Nom. .D., .830″. Rated 400 kV break- own, 200 kV working.

′ Spool, Net....**$ 126.45**
00′ Spool, Net... **587.50**
50′ Spool, Net... **1261.50**

TEFLON HIGH TEMPERATURE WIRE AND CABLE

Belden Teflon® wire products are particularly recommended for miniature cable applications. Teflon is especially suitable for internal wiring soldering applications where insulation melt back is a specific problem. Belden Teflon wiring products are outstanding in their resistance to oil, oxidation, heat, sunlight, flame, and their ability to remain flexible at low temperatures. All have excellent resistance to ozone, water, alcohol, gasoline, acids, alkalis, aromatic hydrocarbons and solvents.

MIL-W-16878, TYPE E TEFLON HOOK-UP WIRE (FIG. A)

Concentrically stranded, silver-coated copper conductor with extruded TFE Teflon insulation rated 600 volts, 200° C. Pass the FR-1 vertical flame test. U.L. Listed.

Belden No.	Type Desig.	AWG and (Stranding)	Nom. O.D.	Ins. Thickness	Net Each, Spool of Solid Colors‡ 100′*	500′*	1000′*
83000	E-30	30 (7 x 38)	.033″	.010″	$16.85	$112.15▲	$112.15
83001	E-28	28 (7 x 36)	.036″	.010″	17.10	113.85▲	113.85
83002	E-26	26 (7 x 34)	.041″	.010″	17.60	116.75▲	116.75
83003	E-24	24 (19 x 36)	.046″	.010″	27.15	148.80▲	.....
83004	E-24	24 (7 x 32)	.045″	.010″	20.85	125.00▲	125.00
83005	E-22	22 (7 x 30)	.051″	.010″	23.15	126.85▲	126.85
83006	E-22	22 (19 x 34)	.052″	.010″	30.25	165.70▲	165.70
83007	E-20	20 (19 x 32)	.060″	.010″	37.05	203.40▲	203.40
83008	E-20	20 (7 x 28)	.059″	.010″	32.70	179.40▲	.....
83009	E-18	18 (19 x 30)	.071″	.010″	49.45	271.50▲	271.50
83010	E-16	16 (19 x 29)	.080″	.010″	62.45	342.85▲	342.85

MIL-W-16878, TYPES EE AND ET TEFLON HOOK-UP WIRE (FIG. A)

Same as above except Type EE rated 1000 V, 200° C; Type ET rated 250 V, 200° C. Specifications and pricing on request.

TEFLON-INSULATED RG/U TRANSMISSION LINE CABLES (FIG. B)

Meet MIL-C-17D specifications. Silver-coated copper covered steel conductors with TFE Teflon insulation and silver-coated copper shields. Pass the FR-1 vertical flame test.

Belden No.	No. RG-	AWG and (Stranding)	No. Shields	Jacket§	Nom. O.D.	Nom. Imp., Ohms	Net Each, Spool of 100′*	500′*	1000′*
83241	141A/U	18 (Solid)	1	BF	.190″	50	$202.75	$1764.00▲	$1764.00
83242	142B/U	18 (Solid)	2	TBF	.195″	50	249.00	2165.00▲	2165.00
83265	178B/U	30 (7 x 38)	1	TBF	.070″	50	67.65	484.50▲	.....
83264	179B/U	30 (7 x 38)	1	TBF	.100″	75	84.75	607.00▲	607.00
83266	180B/U	30 (7 x 38)	1	TBF	.140″	95	125.00	1022.00▲	.....
83284	316/U	26 (7 x .0067)	1	TBF	.098″	50	95.00	681.00▲	681.00

FEP TEFLON-INSULATED SPECIAL INSTRUMENTATION CABLES

Noise reducing tape applied over insulated conductors minimizes generated noise due to cable flexing. Shield coverage, 100%. **Operating Temperature:** −70° C to +150° C. **Jacket Working Voltage:** 1000 VDC, shield to ground. **Nos. 83394, 83395 and 83396:** Tinned copper, insulated with FEP Teflon, conductors cabled, noise reducing tape, 22 AWG (7 x 30) nickel coated copper drain wire, special Beldfoil® shield, red silicone rubber jacket. **No. 83393:** Same except 20 AWG (7 x 28) nickel coated copper drain wire and yellow silicone rubber jacket.

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness Insulation	Thickness Jacket	Nom. O.D.	Conductor Color Coding	Net Each, Spool of 25′	100′	500′
83394•	C	2	22 (7 x 30)	.015″	.030″	.204″	Blk, wht	$21.85	$82.85	$680.00•▲
83395•	C	3	22 (7 x 30)	.015″	.030″	.213″	Blk, wht, red	27.50	102.75	825.00▲
83396•	C	4	22 (7 x 30)	.015″	.030″	.222″	Blk, wht, red, grn	31.25	119.60	954.00▲
83393	D	2	20 (7 x 28)	.020″	.030″	.245″	Blk, red	30.25	118.95	947.00•▲

•Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, all other lengths are exact. †Specify brown, red, orange, yellow, green, light blue, violet (purple), gray (slate), white, or black. ‡Write for information on color striping (1, 2 or 3 stripes) available at price shown. §BF indicates brown fiberglass; TBF, tinted brown FEP Teflon; WTT, white Teflon tape. #Manufactured to current Government specifications and subsequent revisions. *Pass the FR-1 vertical flame test. ▲Per 1000 ft. **Also available in UNREEL package at same price.**

MIL-W-16878, TYPE E SHIELDED TEFLON CABLES

Feature stranded silver-coated copper conductors, MIL-W-16878, Type E extruded TFE Teflon insulation, color-coded, cabled, braided silver-plated copper shield, and white TFE Teflon tape wrapped jacket. Temperature rating, −65° C to +200° C. Shield coverage, 90%. Suggested working voltage, 600 volts rms. Choice of 1-, 2-, 3 or 4-conductor types in 100, 500 or 1000 ft. spools

Belden No.	Fig.	No. of Cond.	AWG and (Stranding)	Thickness Insulation	Thickness Jacket	Nom. O.D.	Conductor Color Coding	Net Each, Spool of 100′	500′*	1000′*
83301	E	1	30 (7 x 38)	.010″	.010″	.070″	Wht	$ 87.40	$ 576.00▲	$ 576.00
83302	E	1	28 (7 x 36)	.010″	.010″	.073″	Wht	90.45	596.00▲	596.00
83303	E	1	26 (7 x 34)	.010″	.010″	.077″	Wht	88.90	586.00▲	586.00
83304	E	1	24 (19 x 36)	.010″	.010″	.082″	Wht	108.60	716.00▲	716.00
83305	E	1	22 (19 x 34)	.010″	.010″	.089″	Wht	114.70	758.00▲	758.00
83306	E	1	20 (19 x 32)	.010″	.010″	.100″	Wht	125.00	935.00▲	935.00
83307	E	1	18 (19 x 30)	.010″	.010″	.113″	Wht	128.05	1025.00▲	1025.00
83308	E	1	16 (19 x 29)	.011″	.012″	.123″	Wht	153.25	1227.00▲	1227.00
83315	F	2	30 (7 x 38)	.010″	.010″	.106″	Wht, blk	125.00	911.00▲	911.00
83316	F	2	28 (7 x 36)	.010″	.010″	.112″	Wht, blk	125.00	942.00▲	942.00
83317	F	2	26 (7 x 34)	.010″	.010″	.120″	Wht, blk	125.00	926.00▲	926.00
83318	F	2	24 (19 x 36)	.010″	.010″	.132″	Wht, blk	139.15	1113.00▲	1113.00
83319	F	2	22 (19 x 34)	.010″	.010″	.144″	Wht, blk	164.25	1314.00▲	1314.00
83320	F	2	20 (19 x 32)	.010″	.012″	.162″	Wht, blk	197.50	1580.00▲	1580.00
83321	F	2	18 (19 x 30)	.010″	.012″	.188″	Wht, blk	226.35	1811.00▲	1811.00
83322	F	2	16 (19 x 29)	.011″	.012″	.200″	Wht, blk	273.60	2189.00▲	2189.00
83330	G	3	30 (7 x 38)	.010″	.010″	.111″	Wht, blk, red	133.75	1071.00▲	1071.00
83331	G	3	28 (7 x 36)	.010″	.010″	.117″	Wht, blk, red	142.00	1137.00▲	1137.00
83332	G	3	26 (7 x 34)	.010″	.010″	.126″	Wht, blk, red	145.80	1167.00▲	1167.00
83333	G	3	24 (19 x 36)	.010″	.010″	.136″	Wht, blk, red	174.10	1394.00▲	1394.00
83334	G	3	22 (19 x 34)	.010″	.012″	.156″	Wht, blk, red	208.60	1670.00▲	1670.00
83335	G	3	20 (19 x 32)	.010″	.012″	.175″	Wht, blk, red	242.35	1940.00▲	1940.00
83336	G	3	18 (19 x 30)	.010″	.012″	.196″	Wht, blk, red	293.85	2351.00▲	2351.00
83337	G	3	16 (19 x 29)	.011″	.012″	.218″	Wht, blk, red	358.60	2870.00▲	2870.00
83345	H	4	30 (7 x 38)	.010″	.010″	.119″	Wht, blk, red, grn	160.50	1284.00▲	1284.00
83346	H	4	28 (7 x 36)	.010″	.010″	.126″	Wht, blk, red, grn	168.15	1346.00▲	1346.00
83347	H	4	26 (7 x 34)	.010″	.010″	.135″	Wht, blk, red, grn	169.50	1356.00▲	1356.00
83348	H	4	24 (19 x 36)	.010″	.012″	.151″	Wht, blk, red, grn	222.00	1776.00	1776.00
83349	H	4	22 (19 x 34)	.010″	.012″	.166″	Wht, blk, red, grn	252.00	2016.00	2016.00
83350	H	4	20 (19 x 32)	.010″	.012″	.185″	Wht, blk, red, grn	297.40	2379.00	2379.00
83351	H	4	18 (19 x 30)	.010″	.012″	.215″	Wht, blk, red, grn	364.05	2913.00	2913.00
83352	H	4	16 (19 x 29)	.011″	.014″	.235″	Wht, blk, red, grn	456.70	3671.00	3671.00

•Spools may contain more than one piece, minimum length of any one piece is 25 ft.; 500′ and 1000′ lengths may vary ±10%, but 100′ length is exact. All parts listed in above table pass the FR-1 vertical flame test. ®TM: Teflon of DuPont; Copperweld of Copperweld Steel Co.; Beldfoil of Belden. ▲Per 1000 ft.



EXTENSION CORD SETS

THREE-CONDUCTOR ADD-A-LINE (FIG. A)

Type SJT vinyl cordage 8-ft. and 15-ft. black extension cords have added convenience of an outlet in the adapter plug so you can add a line. Molded vinyl grounding connector, PH-108. Vinyl adapter plug, PH-267. Nominal O.D., .328". Blue Flag label. Certified to CSA Standards.

Belden Number	Length, Feet	AWG (Strands)	Rating	Net Each
17462S	8	18 (16 x 30)	1250 W, 10A–125V	$4.81
17463S	15	18 (16 x 30)	1250 W, 10A–125V	6.50

TWO-CONDUCTOR, SINGLE CONNECTOR (FIG. C)

Unbreakable, molded vinyl, cord-holder plug; unbreakable molded vinyl connector unless otherwise noted. Two-conductor rubber cordage. Blue Flag label.

Belden Number	Length, Ft.	AWG (Strands)	Cord-age	Color	Net Each
17259S†	9	18 (41 x 34)	SV	Gray	$2.45
17870S‡	8	16 (65 x 34)	HP4	Black	1.95
17361S‡	10	16 (26 x 30)	SJ	Black	2.92

†Has molded vinyl connector with dummy center contact. ‡Has molded vinyl female connector for blade prongs.

POWER SUPPLY CORDS

PARALLEL LAMP CORDS (FIG. D)

Unbreakable molded vinyl plug on parallel lamp cord; two conductors, AWG stranding 18 (41 x 34); conductors split 1" and stripped and twisted 5/8". Tan Flag label.

Belden Number	Length, Feet	Cord Type	Specify Color	Net Each
17106S	6	SPT-1 vinyl	Brown, gray, ivory	$0.96
17109S	9	SPT-1 vinyl	Brown, white	1.07
17112S	12	SPT-1 vinyl	Brown, white	1.36

SVT, SV, SJ, SVO TWO-CONDUCTOR CORDS (FIG. E)

Power supply type for mixers, tools, etc. Unbreakable, molded vinyl, cord-holder plug; two-conductor cord; outer jacket stripped ½"; conductors stripped and twisted 5/8". Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
7205S	6	18 (41 x 34)	SVT vinyl	Gray	$1.38
7206S	6	18 (41 x 34)	SV rubber	Gray	1.61
7249S*	6	18 (41 x 34)	SVO neoprene	Black	3.19
7308S	8	18 (16 x 30)	SJ rubber	Black	1.95
7328S	8	16 (26 x 30)	SJ rubber	Black	2.13

*Coiled; conductors stripped ½" and tinned.

THREE-CONDUCTOR CORDS (FIG. F)

Heavy-duty for tools and appliances requiring grounding. Withstands crushing, twisting and pulling. Unbreakable, molded, vinyl grounding plug; outer jacket stripped 2"; conductors stripped and twisted 5/8". Tan Flag label.

Belden Number	Lgth., Ft.	AWG (Strands)	Type Cord	Color	Net Each
17236S†	6	18 (41 x 34)	SV rubber	Black	$1.98
17237S†	6	18 (41 x 34)	SVT vinyl	Gray	1.75
17238S†	8	18 (41 x 34)	SV rubber	Black	2.21
17239S†	8	18 (41 x 34)	SVT vinyl	Gray	1.95
17276C†	20	16 (26 x 30)	SJT vinyl	Gray	5.09
17405S	6	18 (16 x 30)	SJT vinyl	Gray	1.85
17406S	6	18 (16 x 30)	SJ rubber	Black	2.13
17407S	8	18 (16 x 30)	SJT vinyl	Gray	2.13
17408S	8	18 (16 x 30)	SJ rubber	Black	2.35
17409B	8	18 (16 x 30)	SJO neoprene	Black	2.25
17412S	12	18 (41 x 34)	SJ rubber	Black	3.26
17419S	9	16 (65 x 34)	SJ rubber	Black	3.16
17422S	12	16 (65 x 34)	SJ rubber	Black	3.87
17425S	15	16 (65 x 34)	SJ rubber	Black	4.98
17447S‡	6	18 (41 x 34)	SJO neoprene	Black	4.25
17448S‡	6	16 (65 x 34)	SJO neoprene	Black	4.48
17449S‡	12	16 (65 x 34)	SJO neoprene	Black	6.27
17629S*	9	14 (41 x 30)	S rubber	Black	5.53
17635S*	15	14 (41 x 30)	S rubber	Black	9.07

*For heavy-duty power tools; conductors stripped and twisted ½". †Outer jacket stripped 1½". ‡Coiled. Outer jacket stripped 1½"; conductors stripped and tinned ½".

THREE-CONDUCTOR PROJECTOR AND BUSINESS MACHINE CORDS (FIG. G)

A 1 vinyl insulation on plugs and connectors. Cord is SVT vinyl.

Belden Number	Lgth., Ft.	AWG (Strands)	Rating @ 125 VAC	Color	Net Each
17250C	7½	18 (41 x 34)	10 A	Black	$2.84
17255C	7½	16 (65 x 34)	13 A	Black	3.59
17251C	7½	18 (41 x 34)	10 A	Black	2.84
17254C*	7½	18 (41 x 34)	10 A	Black	2.78
17280S	7½	18 (41 x 34)	7 A	Gray/ Black	2.80
17952S	8	18 (41 x 34)	7 A	Gray	3.08

*No male plug; ends stripped 5/8" and twisted.

LOW-LEAKAGE POWER CORD

Belden SJT Type Low-Leakage 60-Hertz Power Cord reduces the hazards of shock due to current leakage between the two conductors and from the conductors out thru the jacket. Maximum leakage at 120 VAC is 6 microamps to green and 16 microamps to the jacket. Designed for hospitals and critical medical applications. Tan Flag label. Cords have hospital grade grounding plug.

Belden Number	Lgth., Ft.	AWG (Strands)	Rating @ 125 VAC	Color	Net Each
17005S	8	18 (41 x 34)	10 A	Brown	$15.00
17006S	8	16 (65 x 34)	13 A	Brown	15.56
17009S†	8	18 (41 x 34)	10 A	Gray	11.70

†Cord is not low leakage.

THREE-CONDUCTOR EXTENSION CORD SETS (FIG. H)

For business machines, power tools and appliances. Unbreakable, molded vinyl plugs and connectors. Black only. Blue Flag label. Certified to C.S.A. standards.

Belden No.	Lgth., Ft.	AWG (Strands)	Type Cord	Rating @ 125 VAC	Net Each
17460S	10	18 (16 x 30)	SJ rubber	10 A	$ 3.51
17461S	10	16 (26 x 30)	SJ rubber	13 A	4.04
17475S*	25	16 (26 x 30)	SJO neoprene	13 A	10.27
17476S*	50	16 (26 x 30)	SJO neoprene	13 A	16.94
17675S*	25	14 (41 x 30)	SJT vinyl	15 A	19.98
17676S*	50	14 (41 x 30)	SJT vinyl	15 A	35.21

*Duplex grounding connector.

FIRE ALARM AND TRAY CABLES

Power limited, fire protective, signaling circuit cable for use in accordance with NEC article 760 power limited circuits and NEC article 725 class 2 or 3 circuits. Cables are marked as suitable for appropriate tray cable installations. All cables listed pass the U.L. 70,000 BTU flame and tray cable test, the FR-1 vertical flame test and are listed by U.L. and the California State Fire Marshall. **Nos. 9574, 9575, 9578 and 9579:** Bare copper, vinyl insulated, conductors cabled with Beldfoil aluminum-polyester shield and 22 AWG drain wire, red vinyl jacket. **Nos. 9581 and 9583:** Same, except 16 AWG drain wire. **Nos. 9576, 9577 and 9584:** Bare copper, vinyl insulated, conductors cabled, black vinyl jacket. **All Others:** Same, except red vinyl jacket.

Belden No.	Fig.	No. of Conds.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9576	A	6	22 (Solid)	.234″	.....	$ 91.30■	$150.45■
9577	A	9	22 (Solid)	.267″	.....	125.00■	208.05■
9584	A	12	22 (Solid)	.302″	.....	134.25	268.50
9596	B	2	19 (polid)	.100″ x .190″	.....	45.45*	90.85
9597	C	4	19 (Solid)	.242″	.....	100.40*	165.45*
9598	C	6	19 (Solid)	.282″	.....	125.00*	244.80*
9571	D	2	18 (Solid)	.224″	.....	66.70■	125.00■
9574	E	2	18 (Solid)	.228″	.....	81.65■	134.55■
9578	E	4	18 (Solid)	.263″	.....	125.00■	213.60
9572	D	2	16 (Solid)	.244″	.....	83.00■	136.80■
9575	E	2	16 (Solid)	.278″	.....	100.65■	165.90■
9579	E	4	16 (Solid)	.293″	.....	135.60■	271.20
9580	D	2	14 (Solid)	.302″	.....	125.00■	213.45
9581	E	2	14 (Solid)	.306″	.....	132.85■	265.65
9582	D	2	12 (Solid)	.334″	.....	145.35	290.70
9583	E	2	12 (Solid)	.338″	.....	173.35	346.65

POWER-LIMITED CIRCUIT CABLES

These cables are quad-rated U.L. Subject 13 and appliance wiring material Style 2464. Certified to CSA standards as appliance wiring material TR-64. Listed by the California State Fire Marshall. Also marked as Tray Cable suitable for Class 2 and 3 circuits. Pass the U.L. 70,000 BTU flame and tray cable test and the FR-1 vertical flame test. **Nos. 9407 thru 9412:** Tinned copper, PVC insulated, conductors cabled, chrome PVC jacket. **Nos. 9312 thru 9322:** Same, except overall Beldfoil aluminum-polyester shield and drain wire. **Nos. 9328 thru 9337 and 9368 thru 9293:** Same, except pairs individually shielded. **Nos. 9491 thru 9495:** Tinned copper, vinyl insulated, conductors cabled, chrome vinyl jacket. **Nos. 9363 thru 9367 and 9512 thru 9565:** Same, except Beldfoil shield and drain wire.

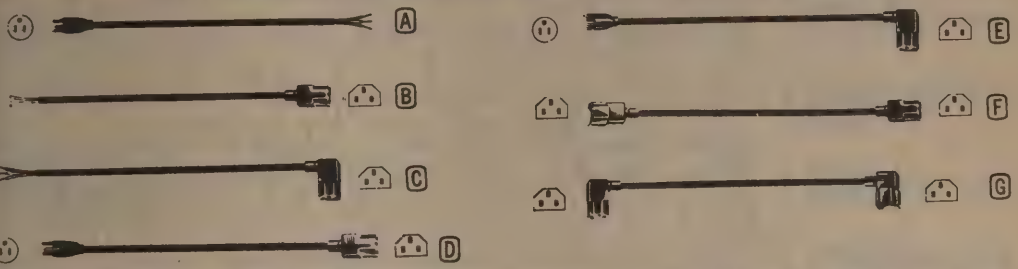
Belden No.	Fig.	No. of Conds.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9407	D	2	22 (7 x 30)	.200″	$ 16.75	$ 63.25■	$ 125.00■
9408	D	2	20 (10 x 30)	.214″	19.95	75.80■	125.00■
9409	D	2	18 (16 x 30)	.230″	24.30	92.75■	152.85■
9410	D	2	16 (26 x 30)	.260″	35.15	125.00■	222.45■
9411	D	2	14 (41 x 30)	.324″	49.00	160.50■	321.00
9412	D	2	12 (65 x 30)	.364″	62.80	214.60	429.15
9312	E	2	12 (65 x 30)	.366″	75.65	258.85	517.65
9314	E	2	14 (41 x 30)	.326″	53.60	184.15■	368.25
9316	E	2	16 (26 x 30)	.262″	39.25	129.00■	258.00■
9318	E	2	18 (16 x 30)	.236″	31.85	122.15■	201.30■
9320	E	2	20 (10 x 30)	.216″	25.05	95.30■	157.05■
9322	E	2	22 (7 x 30)	.202″	21.30	81.10■	133.65■
9328	F	4	22 (7 x 30)	.316″	36.35	128.85	257.70
9329	F	6	22 (7 x 30)	.331″	46.50	165.90	331.80
9330	F	8	22 (7 x 30)	.360″	59.35	221.25	442.50
9331	F	12	22 (7 x 30)	.431″	92.85	346.90	693.75
9332	F	18	22 (7 x 30)	.500″	125.00	510.75	1021.50
9333	F	22	22 (7 x 30)	.551″	155.70	607.50	1215.00
9334	F	30	22 (7 x 30)	.606″	206.70	805.50	1611.00
9335	F	38	22 (7 x 30)	.646″	268.65	1048.50	2097.00
9336	F	54	22 (7 x 30)	.776″	389.75	3037.50▲	3037.50
9337	F	102	22 (7 x 30)	.970″	734.30	5725.50▲	5725.50
9368	F	4	18 (16 x 30)	.381″	55.55	198.15	396.30
9369	F	6	18 (16 x 30)	.421″	71.75	255.60	511.20
9388	F	8	18 (16 x 30)	.456″	91.50	341.20	682.35
9389	F	12	18 (16 x 30)	.526″	125.00	522.75	1045.50
9390	F	18	18 (16 x 30)	.628″	201.95	789.00	1578.00
9391	F	22	18 (16 x 30)	.686″	246.85	961.50	1923.00
9392	F	30	18 (16 x 30)	.766″	335.75	1311.00	2620.50
9491	A	3	22 (7 x 30)	.210″	20.50	78.20■	128.85■
9492	A	3	20 (10 x 30)	.225″	24.05	91.95■	151.50■
9493	A	3	18 (16 x 30)	.246″	29.25	121.05■	199.50■
9494	A	3	16 (26 x 30)	.274″	41.25	146.80■	293.55■
9495	A	3	14 (41 x 30)	.342″	58.00	206.80	413.55
9363	E	3	22 (7 x 30)	.212″	25.15	95.85■	157.95■
9364	E	3	20 (10 x 30)	.227″	29.15	111.50■	183.75■
9365	E	3	18 (16 x 30)	.248″	32.70	125.00■	232.80■
9366	E	3	16 (26 x 30)	.276″	46.15	164.50■	328.95■
9367	E	3	14 (41 x 30)	.344″	64.25	229.15	458.25
9512	F	4	22 (7 x 30)	.310″	26.70	114.85	189.30
9513	F	6	22 (7 x 30)	.326″	35.25	125.50	250.95
9514	F	8	22 (7 x 30)	.353″	43.35	161.70	323.40
9516	F	12	22 (7 x 30)	.425″	62.65	233.70	467.40
9520	F	18	22 (7 x 30)	.488″	91.20	340.50	681.00
9521	F	22	22 (7 x 30)	.536″	110.75	414.00	828.00
9524	F	30	22 (7 x 30)	.594″	125.00	553.50	1107.00
9526	F	38	22 (7 x 30)	.631″	179.75	701.25	1402.50
9527	F	54	22 (7 x 30)	.761″	250.20	1953.00▲	1953.00
9551	F	102	22 (7 x 30)	.950″	468.05	3651.00▲	3651.00
9552	F	4	18 (16 x 30)	.376″	48.70	173.85	347.70
9553	F	6	18 (16 x 30)	.416″	65.80	234.70	469.35
9554	F	8	18 (16 x 30)	.451″	79.75	298.35	596.70
9556	F	12	18 (16 x 30)	.516″	111.70	418.50	837.00
9559	F	18	18 (16 x 30)	.596″	157.10	614.25	1228.50
9563	F	22	18 (16 x 30)	.676″	191.75	747.75	1495.50
9565	F	30	18 (16 x 30)	.751″	260.85	1018.50	2035.50

▲Per 1000 ft.



*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. ■UNREEL PACKAGE ONLY.

THREE CONDUCTOR POWER SUPPLY CORDS WITH CEE COLOR CODING



hielded and unshielded power supply cords for electronic equip-nent. All cords incorporate the CEE (European) color coding and re UL listed, CSA certified and OSHA acceptable.

Belden No.	Fig.	Length	AWG and (Stranding)	Rating @ 125 V	Cord Type	Net Each
			UNSHIELDED			
7512C	A	6′7″	18 (41 x 34)	10A	SJT	$2.16
7513C	A	9′10″	18 (41 x 34)	10A	SJT	2.71
7514C	A	6′7″	16 (65 x 34)	13A	SJT	2.49
7515C	A	9′10″	16 (65 x 34)	13A	SJT	3.19
7516C	A	6′7″	14 (41 x 30)	15A	SJT	3.04
7517C	A	9′10″	14 (41 x 30)	15A	SJT	3.88
7254C	B	7′6″	18 (41 x 34)	10A	SVT	2.78
7518C	B	6′7″	18 (41 x 34)	10A	SJT	2.82
7519C	B	9′10″	18 (41 x 34)	10A	SJT	3.37
7520C	B	6′7″	16 (65 x 34)	13A	SJT	3.15
7521C	B	9′10″	16 (65 x 34)	13A	SJT	3.85
7522C	B	6′7″	14 (41 x 30)	15A	SJT	3.69
7523C	B	9′10″	14 (41 x 30)	15A	SJT	4.51
7536C	C	6′7″	18 (41 x 34)	10A	SJT	3.04
7537C	C	9′10″	18 (41 x 34)	10A	SJT	3.57
7538C	C	6′7″	16 (65 x 34)	13A	SJT	3.37
7539C	C	9′10″	16 (65 x 34)	13A	SJT	4.07
7541C	C	6′7″	14 (41 x 30)	15A	SJT	3.88
7542C	C	9′10″	14 (41 x 30)	15A	SJT	4.75
7500C	B	6′7″	18 (41 x 34)	10A	SJT	3.19
7251C	B	7′6″	18 (41 x 34)	10A	SVT	2.84
7501C	B	9′10″	18 (41 x 34)	10A	SJT	3.74
7502C	B	6′7″	16 (65 x 34)	13A	SJT	3.52
7503C	B	9′10″	16 (65 x 34)	13A	SJT	4.24
7504C	B	6′7″	14 (41 x 30)	15A	SJT	4.07
7505C	B	9′10″	14 (41 x 30)	15A	SJT	4.90
7506C	E	6′7″	18 (41 x 34)	10A	SJT	3.41
7507C	E	9′10″	18 (41 x 34)	10A	SJT	3.94
7508C	E	6′7″	16 (65 x 34)	13A	SJT	3.74
7509C	E	9′10″	16 (65 x 34)	13A	SJT	4.44
7510C	E	6′7″	14 (41 x 30)	15A	SJT	4.27
7511C	E	9′10″	14 (41 x 30)	15A	SJT	5.12
7524C	F	3′3″	18 (41 x 34)	10A	SJT	3.95
7525C	F	3′3″	16 (65 x 34)	13A	SJT	4.12
7526C	F	3′3″	14 (41 x 30)	15A	SJT	4.51
7527C	G	3′3″	18 (41 x 34)	10A	SJT	4.42
7528C	G	3′3″	16 (65 x 34)	13A	SJT	4.58
7530C	G	3′3″	14 (41 x 30)	15A	SJT	4.97
7531C	G	3′3″	18 (41 x 34)	10A	SJT	4.42
7532C	G	3′3″	16 (65 x 34)	13A	SJT	4.58
7533C	G	3′3″	14 (41 x 30)	15A	SJT	4.97

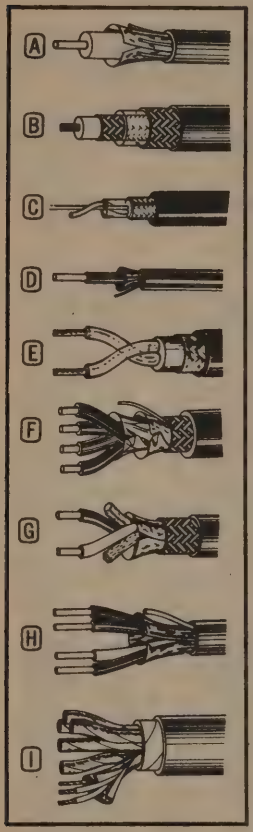
Belden No.	Fig.	Length	AWG and (Stranding)	Rating @ 125 V	Cord Type	Net Each
			SHIELDED			
17740C	A	6′7″	18 (41 x 34)	10A	SVT	$3.35
17741C	A	9′10″	18 (41 x 34)	10A	SVT	3.94
17612C	A	6′7″	18 (41 x 34)	10A	SJT	3.54
17613C	A	9′10″	18 (41 x 34)	10A	SJT	4.27
17614C	A	6′7″	16 (65 x 34)	13A	SJT	3.88
17615C	A	9′10″	16 (65 x 34)	13A	SJT	4.82
17616C	A	6′7″	14 (41 x 30)	15A	SJT	4.60
17617C	A	9′10″	14 (41 x 30)	15A	SJT	5.68
17749C	B	6′7″	18 (41 x 34)	10A	SVT	4.12
17750C	B	9′10″	18 (41 x 34)	10A	SVT	4.75
17618C	B	6′7″	18 (41 x 34)	10A	SJT	4.31
17619C	B	9′10″	18 (41 x 34)	10A	SJT	5.05
17620C	B	6′7″	16 (65 x 34)	13A	SJT	4.65
17621C	B	9′10″	16 (65 x 34)	13A	SJT	5.60
17622C	B	6′7″	14 (41 x 30)	15A	SJT	5.37
17623C	B	9′10″	14 (41 x 30)	15A	SJT	6.47
17751C	C	6′7″	18 (41 x 34)	10A	SVT	3.91
17752C	C	9′10″	18 (41 x 34)	10A	SVT	4.50
17636C	C	6′7″	18 (41 x 34)	10A	SJT	4.52
17637C	C	9′10″	18 (41 x 34)	10A	SJT	5.27
17638C	C	6′7″	16 (65 x 34)	13A	SJT	4.87
17639C	C	9′10″	16 (65 x 34)	13A	SJT	5.84
17641C	C	6′7″	14 (41 x 30)	15A	SJT	5.57
17642C	C	9′10″	14 (41 x 30)	15A	SJT	6.67
17742C	D	6′7″	18 (41 x 34)	10A	SVT	4.78
17743C	D	9′10″	18 (41 x 34)	10A	SVT	5.38
17600C	D	6′7″	18 (41 x 34)	10A	SJT	4.98
17601C	D	9′10″	18 (41 x 34)	10A	SJT	5.71
17602C	D	6′7″	16 (65 x 34)	13A	SJT	5.33
17603C	D	9′10″	16 (65 x 34)	13A	SJT	6.27
17604C	D	6′7″	14 (41 x 30)	15A	SJT	6.03
17605C	D	9′10″	14 (41 x 30)	15A	SJT	7.13
17745C	E	6′7″	18 (41 x 34)	10A	SVT	4.98
17746C	E	9′10″	18 (41 x 34)	10A	SVT	5.60
17606C	E	6′7″	18 (41 x 34)	10A	SJT	5.20
17607C	E	9′10″	18 (41 x 34)	10A	SJT	5.91
17608C	E	6′7″	16 (65 x 34)	13A	SJT	5.54
17609C	E	9′10″	16 (65 x 34)	13A	SJT	6.47
17610C	E	6′7″	14 (41 x 30)	15A	SJT	6.24
17611C	E	9′10″	14 (41 x 30)	15A	SJT	7.34
17753C	F	3′3″	18 (41 x 34)	10A	SVT	4.95
17624C	F	3′3″	18 (41 x 34)	10A	SJT	5.05
17625C	F	3′3″	16 (65 x 34)	13A	SJT	5.21
17626C	F	3′3″	14 (41 x 30)	15A	SJT	5.67
17754C	G	3′3″	18 (41 x 34)	10A	SVT	5.27
17627C	G	3′3″	18 (41 x 34)	10A	SJT	5.37
17628C	G	3′3″	16 (65 x 34)	13A	SJT	5.54
17630C	G	3′3″	14 (41 x 30)	15A	SJT	5.98
17755C	G	3′3″	18 (41 x 34)	10A	SVT	5.27
17631C	G	3′3″	18 (41 x 34)	10A	SJT	5.37
17632C	G	3′3″	16 (65 x 34)	13A	SJT	5.54
17633C	G	3′3″	14 (41 x 30)	15A	SJT	5.98

MAGNET WIRE

Single Beldsol®: Dual film insulated magnet wire combines the excellent dielectric characteristics of polyurethane and toughness and olvent resistance offered by an overcoat of nylon. Rated by IEEE tests for 130° C usage and will solder without insulation removal at 750° F. Complies with MIL-W-583 specs. 40 AWG is Beldure® 105° C polyurethane film. **Heavy Armored Poly-Thermaleze:** Dual oated magnet wire. Base coat cross-linked, modified polyester; top coat amide-imide polymer; rated for 180° C usage. Exceptional ability o resist solvents and abuse in difficult windings. Complies with MIL-W-583 specs. 36, 38 and 40 AWG 180° C single polyester-imide, blue color.

	Single Beldsol®						Heavy Poly-Thermaleze								
	¼ lb. Spool			½ lb. Spool			½ lb. Spool			1 lb. Spool			3 and 5 lb. Spools			
Size	Belden No.	Lgth., Ft.	Net Each	Belden No.	Lgth., Ft.	Net Each	Belden No.	Lgth., Ft.	Net Each	Belden No.	Lgth., Ft.	Net Each	Belden No.	Spool Lbs.	Lgth. Ft.	Net Each
14	.....	.....	....	.....	.....	....	8059	40	$ 6.55	8073	80	$10.95	9040	5	410	$53.35
16	.....	.....	....	8048	63	$ 6.65	8060	63	6.70	8074	126	11.50	9041	5	630	55.15
18	.....	.....	....	8049	100	7.00	8061	100	6.85	8075	199	11.85	9042	5	995	57.35
20	.....	.....	....	8050	160	7.00	8062	157	7.20	8076	315	11.95	9043	5	1570	57.35
22	.....	.....	....	8051	254	7.00	8063	250	7.30	8077	501	11.95	9044	5	2500	57.35
24	.....	.....	....	8052	404	7.15	8064	396	7.65	8078	793	12.50	9045	3	2380	35.95
26	.....	.....	....	8053	645	7.45	8065	630	7.85	8079	1260	13.05	9046	3	3770	38.05
28	8040	510	$4.77	8054	1020	7.65	8066	995	8.25	8080	1990	14.15	9047	3	5970	41.05
30	8041	807	5.10	8055	1615	8.30	8067	1570	8.95	8081	3140	16.20	9048	3	9430	46.35
32	8042	1257	5.55	8056	2515	9.05	8068	2440	9.85	8082	4880	18.40	.....	.....	.....	.....
34	8043	2030	5.85	8057	4060	9.65	8069	3930	10.65	8083	7860	20.70	.....	.....	.....	.....
36	8044	3200	6.45	8058	6400	11.05	8070	6200	11.95	8084	12400	24.60	.....	.....	.....	.....
38	8045	5070	7.85	.....	.....	....	8071	9700	14.30	8085	19400	28.80	.....	.....	.....	.....
40	8046	8050	10.75	.....	.....	....	8072	16050	17.65	8086	32100	37.35	.....	.....	.....	.....

®TM: Beldsol and Beldure of Belden.



COAXIAL COMPUTER CABLES

Belden No.	Fig.	AWG	Nom. O.D.	pF/Ft.	Imp., Ohms	Shields No.	Shields Type	Net Each, Spool of 100′	500′	1000′	2000
9889▲	A	18	.216″	26	50	1	a	.....	$105.50	$173.85	$347.7
9888	B	11	.480″	26	50	2	b	.....	325.60	651.15	.....
8254	C	22	.242″	13.5	93	1	b	$22.60	84.40*	139.05*	.....
9393▲	D	30	.115″	14	93	1	c	20.20	66.65	125.00	.....

a—Duofoil; b—bare copper braid; c—Beldfoil. ▲UL listed.

TWINAXIAL 2 AND 3 PAIR DATA CABLES

Belden No.	Fig.	AWG	No. of Conds.	Nom. O.D.	pF/Ft.	Imp., Ohms	Shields No.	Shields Type	Net Each, Spool of 100′	500′	1000′	200
9207▲●	E	20	2	.325″	15.5	100	1	a	$64.35	$211.35	$422.70	$ 84
9855▲●	F	22	4	.290″	15.5	100	2	a,b	36.70	125.80*	251.55	..
8460*	G	16	2	.440″	10.9	124	2	a,c	.....	286.05	572.10	114
9863▲	F	25	6	.450″	12.2	124	†	b	87.95	300.30	600.60	..
9182▲●	F	22	2	.350″	8.8	150	1	c	.....	157.80*	315.60	..

a—tinned copper braid; b—Beldfoil; c—Duofoil. †One shield per pair. ▲UL listed.

DATALENE COMPUTER CABLES

No. 9184: Overall Duofoil shield, black vinyl jacket. **No. 9730 thru 9738:** Tinned copper conduct Datlene insulation, twisted pairs individually shielded with Beldfoil shield, chrome vinyl jac All cables are UL listed.

Belden No.	Fig.	No. of Conds.	AWG and (Stranding)	pF/Ft.	Nom. O.D.	Net Each, Spool of 100′	500′	1000
9184●	H	2	22 (Solid)	8.7	.420″	.....	$ 226.65	$ 453.3
9730	I	3	24 (7 x 32)	12.5	.350″	$ 45.45	169.45	338.8
9731●	I	6	24 (7 x 32)	12.5	.460″	94.55	353.50	706.9
9732●	I	9	24 (7 x 32)	12.5	.570″	125.00	520.50	1041.0
9733●	I	11	24 (7 x 32)	12.5	.610″	158.75	620.25	1240.5
9734●	I	12	24 (7 x 32)	12.5	.630″	170.90	666.00	1332.0
9735●	I	15	24 (7 x 32)	12.5	.700″	211.15	823.50	1647.0
9736●	I	17	24 (7 x 32)	12.5	.730″	245.10	957.00	1912.5
9737●	I	19	24 (7 x 32)	12.5	.740″	279.75	1092.00	2182.5
9738●	I	27	24 (7 x 32)	12.5	.920″	397.45	1551.00	3100.5

●Passes the FR-1 vertical flame test.

GENERAL PURPOSE INTERFACE BUS CABLES

For interfacing computer power with test and measurement hardware without resorting to t consuming patchwork wiring. Can be used to interconnect up to 15 programmable instrument one time in star or daisy chain networks. UL approved. Cable has 6 pairs of 26 AWG, 10 singl AWG conductors and one single 24 AWG conductor; braid shield with 24 AWG drain wire; semi-r PVC insulation; and gray PVC jacket. Cables ends have 24-pin AMP connectors (male and fem with gold plated beryllium copper pins. **Capacitance:** 35 pF/ft for 10 single conductors; 38 p for 6 pairs. **Impedance:** 70 ohms for 10 single conductors; 75 ohms for 6 pairs.

Belden No.	Length	Net Each	Belden No.	Length	Net Each
9641	100′	$105.40	9643	6.6′	$ 69.45
	500′	349.00	9644	13.1′	77.25
	1000′	697.95	9645	26.2′	92.65
9642	3.3′	65.70	9646	52.2′	123.55

EIA RS-232-C CABLE ASSEMBLIES

The ultimate interface for your data terminal and communications equipment employing serial d exchange. Belden's 25-conductor molded cable assemblies are designed and built to meet EIA S dard RS-232-C and types A through M standard interfaces. Subminiature "D" type male and fem connectors assure positive mating and no mix-up. Custom designed assemblies are available on spe request. Cable has 25 conductors of #22 AWG (7 x 30) stranded tinned copper with PVC insula and jacket. Also available in shielded versions; details and prices available on request.

Bulk Cable			Complete Cable Assemblies: Male both ends			Male one end / Female other end		
Belden Number	Length, Feet	Net Each	Belden Number	Length, Feet	Net Each	Belden Number	Length, Feet	Net Each
8459	100	$109.30	9651	5	$69.75	9652	5	$26.3
	500	411.75	9647	10	28.60	9653	10	29.8
	1000	823.50	9648	25	38.95	9654	25	40.0
			9649	50	56.10	9655	50	57.2
			9650	70	69.75	9656	70	71.0

*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.

BONDED FLAT CABLE
UL STYLE 2697—300 V/80° C

Conductor insulation: .01″ PVC. Color code: brown, red, orange, yellow, green, blue, violet, gray, white, black; colors repeat. Passes FR-1 vertical flame test.

Belden No.	No. of Conds.	AWG (Strands)	Size, Ins. W.	Th.	Net per 1000′
9A22010	10	22(7x30)	.51	.051	$27.10
9A22015	15	22(7x30)	.77	.051	40.75
9A22020	20	22(7x30)	1.01	.051	54.15
9A22030	30	22(7x30)	1.53	.051	81.15
9A24010	10	24(7x32)	.44	.044	20.85
9A24015	15	24(7x32)	.66	.044	31.30
9A24020	20	24(7x32)	.88	.044	41.65
9A24030	30	24(7x32)	1.32	.044	55.65
9A26010	10	26(7x34)	.39	.039	17.65
9A26015	15	26(7x34)	.59	.039	23.55
9A26020	20	26(7x34)	.78	.039	35.10
9A26030	30	26(7x34)	1.17	.039	52.60
9B22010	10	22(19x34)	.51	.051	33.60
9B22015	15	22(19x34)	.77	.051	44.95
9B22020	20	22(19x34)	1.02	.051	67.00
9B22030	30	22(19x34)	1.53	.051	100.35
9B24010	10	24(19x36)	.45	.045	25.60
9B24015	15	24(19x36)	.68	.045	43.00
9B24020	20	24(19x36)	.90	.045	57.25
9B24030	30	24(19x36)	1.35	.045	85.80

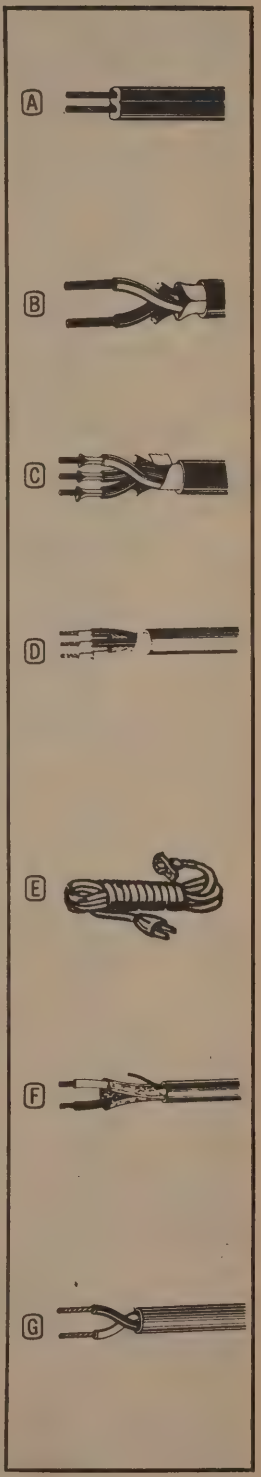
LAMINATED FLAT CABLE
UL STYLE 2651—300 V/105° C

Vinyl insulation. Color code: Blue line on edge of cable indic polarity. Passes FR-1 vertical flame test.

Belden No.	No. of Conds.	AWG (Strands)	Size, Ins. W.	Th.	Net per 100
9L28010	10	28(7x36)	.50	.034	$17.3
9L28014	14	28(7x36)	.70	.034	24.2
9L28016	16	28(7x36)	.80	.034	27.3
9L28020	20	28(7x36)	1.00	.034	34.2
9L28024	24	28(7x36)	1.20	.034	40.8
9L28025	25	28(7x36)	1.25	.034	42.5
9L28026	26	28(7x36)	1.30	.034	44.2
9L28034	34	28(7x36)	1.70	.034	57.3
9L28037	37	28(7x36)	1.85	.034	62.3
9L28040	40	28(7x36)	2.00	.034	67.2
9L28050	50	28(7x36)	2.50	.034	84.0
9L28060	60	28(7x36)	3.00	.034	100.8

PORTABLE CORDAGE

elden No.	UL Type	Fig.	No. of Conds.	AWG and (Stranding)	Jkt. Mat'l.	Net per 1000', Lots of 250'-999'	1000'-4999'	5000'-24,999'	25,000'-99,999'
122	SPT	A	2	18 (41 x 34)	Plastic	$ 81.30	$ 75.65	$ 70.05	$ 63.20
123	SPT	A	2	18 (41 x 34)	Plastic	106.40	99.05	91.65	82.75
126	SPT	A	2	16 (65 x 34)	Plastic	141.40	131.60	121.75	109.95
115	SP	A	2	18 (41 x 34)	Rubber	110.65	103.00	95.30	86.05
328	HPN	A	2	18 (41 x 34)	Neoprene	150.65	140.20	129.75	117.15
326	HPN	A	2	16 (65 x 34)	Neoprene	199.05	185.25	171.45	154.80
140	SVT	B	2	18 (41 x 34)	Plastic	135.45	126.05	116.65	105.35
120	SV	B	2	18 (41 x 34)	Rubber	173.05	161.05	149.05	134.55
227	SJO	B	2	18 (16 x 30)	Neoprene	227.15	211.40	195.65	176.60
228	SJO	B	2	16 (26 x 30)	Neoprene	275.55	256.45	237.30	214.25
204	SO	B	2	18 (41 x 34)	Neoprene	366.60	341.15	315.70	285.00
203	SO	B	2	16 (65 x 34)	Neoprene	425.80	396.25	366.70	331.05
202	SO	B	2	14 (41 x 30)	Neoprene	669.05	622.65	576.25	520.20
201	SO	B	2	12 (65 x 30)	Neoprene	934.90	870.05	805.20	726.90
348	SJT	C	3	18 (41 x 34)	Plastic	238.35	221.80	205.30	185.30
349	SJT	C	3	16 (65 x 34)	Plastic	292.50	272.20	251.90	227.45
350	SVT	C	3	18 (41 x 34)	Plastic	175.60	163.45	151.25	136.55
351	SVT	C	3	17 (52 x 34)	Plastic	204.50	190.30	176.15	159.00
129	SJ	C	3	18 (16 x 30)	Rubber	241.70	224.95	208.15	187.95
125	SJ	C	3	18 (41 x 34)	Rubber	261.85	243.70	225.55	203.60
130	SJ	C	3	16 (26 x 30)	Rubber	311.30	289.70	268.10	242.05
124	SJ	C	3	16 (65 x 34)	Rubber	338.60	315.10	291.60	263.25
109	S	C	3	18 (41 x 34)	Rubber	329.70	306.85	283.95	256.35
108	S	C	3	16 (65 x 34)	Rubber	411.60	383.05	354.50	320.05
107	S	C	3	14 (41 x 30)	Rubber	666.00	619.80	573.60	517.85
106	S	C	3	12 (65 x 30)	Rubber	889.95	828.20	766.45	691.95
105	S	C	3	10 (105 x 30)	Rubber	1211.40	1127.35	1043.30	941.85
229	SJO	C	3	18 (16 x 30)	Neoprene	281.60	262.10	242.55	218.95
230	SJO	C	3	16 (26 x 30)	Neoprene	362.00	336.90	311.80	281.50
209	SO	C	3	18 (41 x 34)	Neoprene	418.75	389.70	360.65	325.60
208	SO	C	3	16 (65 x 34)	Neoprene	515.70	479.95	444.15	400.95
207	SO	C	3	14 (41 x 30)	Neoprene	859.45	799.85	740.20	668.25
206	SO	C	3	12 (65 x 30)	Neoprene	1141.80	1062.55	983.35	887.75
205	SO	C	3	10 (105 x 30)	Neoprene	1505.40	1400.95	1296.50	1170.45
352	SJT	C	3	18 (41 x 34)	Plastic	238.35	221.80	205.30	185.30
353	SJT	C	3	16 (65 x 34)	Plastic	292.50	272.20	251.90	227.45
354	SJT	C	3	14 (41 x 30)	Plastic	340.50	316.90	293.25	264.75
362	SJT	C	3	18 (41 x 34)	Plastic	290.20	270.05	249.90	225.60
363	SJT	C	3	16 (65 x 34)	Plastic	358.35	333.50	308.65	278.60
364	SJT	C	3	14 (41 x 30)	Plastic	426.90	397.30	367.65	331.90
217	SO	C	4	14 (41 x 30)	Neoprene	1002.25	932.75	863.20	779.25
216	SO	C	4	12 (65 x 30)	Neoprene	1378.50	1282.85	1187.25	1071.80



MULTI-CONDUCTOR PORTABLE CORDAGE

os. 8462 and 8888 (Fig. A): Two conductors, stranded copper, parallel, insulated with one conductor olarity ribbed. **All Others: (Fig. D):** Stranded copper, rubber insulated, cabled with fillers, black bber jacket. **Color-coded:** Black and white except as noted. U.L. Listed.

elden No.	UL Type	No. Cond.	AWG and (Stranding)	Nominal O.D.	Net Each, Spool of 25'	50'	100'	250'	500'	1000'
62*	SP-1	2	18 (41 x 34)•	.123" x .227"	$5.75	.....	$17.85	$40.80	.....	.....
88†	SPT-1	2	18 (41 x 34)	.110" x .225"	5.60	.....	15.60	33.50	$66.65■	125.00■
52	SV	2	18 (41 x 34)	.245"	....	$14.95	26.70	58.70	117.40*	193.50*
78	SJ	2	18 (41 x 34)	.298"	....	.....	29.25	68.80	.....	226.35
72	SJ	2	16 (65 x 34)	.325"	....	.....	40.35	93.55	.....	.....
53	SV	3‡	18 (41 x 34)•	.265"	....	18.95	36.35	.....	139.90	.....
79	.....	3‡	14 (41 x 30)	.380"	....	.....	59.00	125.00	.....	.....
54	.....	4‡	18 (41 x 34)•	.265"	....	21.50	40.80	.....	153.10*	306.15*
55	.....	5‡	3-20 (26 x 34)•	.280"	....	.....	40.35	101.10	166.20*	332.40■
			2-18 (41 x 34)•							
97	SJT	3	18 (41 x 34)	.430"	....	.....	77.90	.....	277.95	555.90
98	SJT	3	16 (65 x 34)	.475"	....	.....	93.30	.....	333.70	667.35

pecify: *Brown or ivory rubber; †Brown, ivory or gray vinyl. ‡Black, white, green. §Black, white, own, red. ¶Brown, green, white, black, red. •Tinned.

TELEVISION AND SERVICEMAN CORDS (FIG. E)

lo.	Description	Each	No.	Description	Each
95	6' SPT-1 brn. plastic, male TV plug	$1.91*	8889	9' SPT-1 brn. plastic, male TV plug	$2.26‡
73	Same as 8895 but polarized	2.17†	8875	6' SPT-1 red plastic extension	2.05

vailable in bulk, 100-pack: *$105.00; †$119.00; ‡$124.00. U.L. Listed.

ALUMINUM GROUND WIRE

elden No. 8018 (Not Illus.)—Solid 8 AWG soft annealed aluminum wire packaged in counter dis-nsers of ten 50 ft. connected coils, or spools of 500 ft. lengths. Spooled wire marked every 100ft. **' Coil,** Net.....**$4.91** **500' Spool,** Net.....**$39.60**

TRAY CABLES

sted under Subject 1277 as Tray Cable in accordance with Articles 318, 340, 500 and 501 of the EC. Pass the U.L. 70,000 BTU flame test and the FR-1 vertical flame test. Suitable for outdoor e. **Nos. 9341 thru 9344:** Stranded tinned copper, PVC insulation, nylon overcoat, conductors cabled. eldfoil shield and drain wire, black PVC jacket. **Nos. 9486 thru 9489:** Same, except no shield.

Belden No.	Fig.	No. of Conds.	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100'	500'	1000'
9341	F	2	18 (16 x 30)	.278"	$46.45	$173.35	$346.65
9342	F	2	16 (26 x 30)	.304"	52.05	194.40	388.80
9343	F	2	14 (41 x 30)	.358"	58.70	218.95	437.85
9344	F	2	12 (65 x 30)	.398"	80.35	300.00	600.00
9486	G	2	18 (16 x 30)	.279"	41.80	156.10	312.15
9487	G	2	16 (26 x 30)	.306"	47.15	175.65	351.30
9488	G	2	14 (41 x 30)	.359"	50.05	186.55	373.05
9489	G	2	12 (65 x 30)	.399"	70.75	264.25	528.45

*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. ■UNREEL PACKAGE ONLY.

BRAIDED TINNED COPPER SHIELDING AND BONDING CABLES (FIG. A)

Belden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′	Belden No.	Stranding	Nom. I.D.	Net Each, Spool of 10′	50′	250′
8676	16 x 36	1/16″	$3.06	$ 5.60	$25.05	8669	336 x 34	5/16″	$ 8.70	$ 36.80	$141.30
8674	24 x 36	1/8″	3.35	7.85	34.95	8672	528 x 36	7/16″†	10.05	42.05	161.80
8652	96 x 40	1/8″	3.86	9.30	38.05	8671	864 x 36	11/16″†	13.30	59.45	235.30
8653	48 x 36	3/16″	3.91	10.30	41.25	8662	576 x 34	11/16″†	12.30	51.60	204.25
8654	72 x 36	1/4″	3.95	11.20	47.05	8655	360 x 30	5/8″†	14.60	70.45	253.95
8664	96 x 36	1/4″	4.28	12.65	53.80	8670	480 x 30	3/4″†	18.85	91.25	329.70
8660	96 x 34	1/4″	4.06	11.95	57.25	8656	576 x 30	7/8″†	23.60	113.20	420.00
8668	120 x 34	1/4″	5.50	15.20	67.25	8657	768 x 30	1 1/16″†	31.05	125.10	.....
8663	168 x 34	1/4″	5.85	19.40	85.85	8658	1056 x 30	1 3/16″†	43.45	175.45	.....
8661	192 x 34	1/4″	5.60	17.95	84.00	8659	1680 x 30	1 1/2″†	66.00	272.65	.....

†Flat width. *Spool may contain more than one piece, minimum length of any one piece is 25 ft.

SOLID TINNED COPPER BUS BAR WIRE (FIG. B)

Made in accordance with Federal Spec QQ-W-343.

Belden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′	Belden No.	AWG	Nom. O.D.	Net Each, Spool of 100′	1000′
8011	12	.080″	$19.85	.....	8021	22	.025″	$3.91	$24.60
8012	14	.064″	13.30	$109.60	8022	24	.020″	3.77	20.05
8013	16	.050″	8.70	74.65	8023	26	.016″	3.66	18.60
8019	18	.040″	6.25	47.50	8024	28	.012″	3.53	16.05
8020	20	.032″	4.71	33.15	8025	30	.010″	3.53	15.30

MIL-W-16878 TYPE B MULTI-CONDUCTOR SHIELDED CABLE (FIG. C)

Suitable for general purpose use in communications and instrumentations applications. Stranded tinned copper conductors, vinyl insulated, clear nylon jacket, conductors cabled, tinned copper braid shield, white vinyl jacket. Insulation .010″ thick. WV, 600 V suggested. Conductor Color Code: **1**, white; **2**, black; **3**, red; **4**, green. Pass the FR-1 vertical flame test.

Belden No.	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Shield Cov. %	Nom. Cap.* pF/ft.	Net Each, Spool of 100′	500′	1000′
9965	1	22 (19 x 34)	.100″	92	90	$22.05	$ 97.50	$160.65
9961	1	20 (19 x 32)	.109″	93	100	22.95	102.65	169.20
9951	1	16 (19 x 29)	.139″	93	125	30.40	125.00	227.25
9966	2	22 (19 x 34)	.176″	91	87	36.60	136.15	272.25
9962	2	20 (19 x 32)	.192″	92	95	42.25	155.40	310.80
9952	2	16 (19 x 29)	.238″	92	120	50.80	200.95	401.85
9967	3	22 (19 x 34)	.184″	91	817	50.00	190.30	380.55
9963	3	20 (19 x 32)	.202″	91	95	51.45	204.30	408.60
9953	3	16 (19 x 29)	.250″	91	120	70.00	274.75	549.45
9968	4	22 (19 x 34)	.200″	90	817	55.90	209.50	418.95
9964	4	20 (19 x 32)	.212″	92	95	62.35	245.25	490.50
9954	4	16 (19 x 29)	.270″	91	120	88.40	339.00	678.00

*Capacitance between one conductor and other conductor connected to shield.

MIL-C-3432D 600 VOLT POWER AND CONTROL CABLES (FIG. D)

Intended for military applications to transmit power and control signals. Features tough flexible jacket which is resistant to mechanical abuse and extreme humidity and temperature conditions. Tinned copper conductors, rubber insulated, cabled with fillers, cotton serve, black rubber jacket. Conductor Color Coding: **1**, white; **2**, black; **3**, green.

Belden No.	Type Designation	No. of Cond.	AWG and (Stranding)	Nom. O.D.	Insul. Thk.	Net Each, Spool of 500′	1000′
9215	CO-02 MGF (2/18) 0310	2	18 (41 x 34)	.310″	.033″	$132.85	$265.65
9216	CO-02 MGF (2/16) 0335	2	16 (65 x 34)	.335″	.033″	160.75	321.45
9217	CO-02 MGF (2/14) 0400	2	14 (41 x 30)	.400″	.036″	211.35	422.70
9218	CO-03 MGF (3/18) 0340	3	18 (41 x 34)	.345″	.033″	163.75	327.45
9219	CO-03 MGF (3/16) 0365	3	16 (65 x 34)	.365″	.033″	219.60	439.20

MISCELLANEOUS SPECIAL DUTY WIRES

Belden No. 8868 High Voltage CRT Lead (Fig. E)—Tinned copper 22 AWG, 7 x 30 stranded, conductive polyethylene, polyethylene insulated, red vinyl jacket; extra flexible and small. Rated 50,000 V breakdown; 25,000 V working. O.D., .150″ nominal. **25′ Spool,** Net..... **$ 5.40**
100′ Spool, Net..... **$13.65** **500′ Spool,** Net..... **51.45***

Belden No. 8866 High Voltage CRT Lead (Fig. E)—Tinned copper 18 AWG, 16 x 30 stranded, conductive polyethylene, polyethylene insulated, red vinyl jacket. Rated 110 kV breakdown; 40,000 V working. O.D., .208″ nom.
25′ Spool, Net..... **$8.15** **100′ Spool,** Net..... **$23.70** **500′ Spool,** Net..... **$98.05***

Belden No. 8869 High Voltage CRT Lead (Fig. E)—Tinned copper 22 AWG, 7 x 30 stranded, conductive polyethylene, polyethylene insulated, black vinyl jacket. Rated 35,000 V breakdown, 17,000 V working. Nom. O.D., .120″.
25′ Spool, Net..... **$4.33; 100′ Spool,** Net..... **$10.95; 500′ Spool,** Net..... **$39.95**

Belden No. 9867 High Voltage Lead (Fig. E)—Tinned copper 20 AWG, 7 x 28½ stranded, conductive polyethylene, polyethylene insulated, red vinyl jacket. Rated 60,000 VDC breakdown; 30,000 VDC working. O.D., .185″, nominal.
25′ Spool, Net..... **$7.10; 100′ Spool,** Net..... **$17.50; 500′ Spool,** Net..... **$66.80**

Belden No. 8014* Indoor Aerial Wire (Fig. F)—Tinned copper 25 AWG, 13 x 36 stranded, chrome vinyl insulation. O.D., .044″ nom. **25′ Spool,** Net..... **$3.11** **500′ Spool,** Net..... **$17.20**

Belden No. 9002 Trap Wire—Bare copper 20 AWG (7 groups of 15 strands of 40 AWG wire). O.D., .038″, nominal. **1000′ Spool,** Net..... **$97.40**

Belden No. 8000 Antenna Wire—Bare copper covered steel 14 AWG (7 x 22 stranding). O.D., .076″ nominal. **50′ Spool,** Net..... **$ 6.25; 75′ Spool,** Net..... **$ 8.85**
100′ Spool, Net..... **10.95; 1000′ Spool,** Net..... **98.65**

Belden No. 8002—Same, except 16 AWG (7 x 24 stranding. O.D., .060″, nominal.
50′ Spool, Net..... **$4.42; 100′ Spool,** Net..... **$7.65**

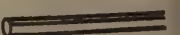
Belden No. 8008 Antenna Wire—Copper, 12 AWG (Solid) with heavy armored Thermaleze insulation. O.D. .084″, nominal. **100′ Spool,** Net **$22.40; 150′ Spool,** Net **$31.70; 500′ Spool,** Net **$96.30**

Belden No. 8009—Same, except 14 AWG (Solid). O.D. .067″, nimonal. **100′ Spool,** Net..... **$14.30**
150′ Spool, Net..... **$19.60; 500′ Spool,** Net..... **57.90**

®TM: Celenamel, Duobond, Duofoil of Belden; Hypalon of DuPont. *Passes the FR-1 vertical flame test.

***ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE.**














A


B


C


D


E


F


G


H

THREE CONDUCTOR SHIELDED CABLES

Three conductor cable with three conductors shielded; #30 thru #16 gauge. **Fig. K Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper spiral wrapped shield. Chrome vinyl jacket. **Fig. L Types:** Tinned copper, vinyl insulated, conductors cabled, tinned copper braid shield. Chrome vinyl jacket. No. 8643: Same, but polypropylene insulated conductors cabled around textile strength member. Operating temperature, 105° C max. **Fig. M Types:** Tinned copper, polyethylene insulated, conductors cabled, Beldfoil aluminum-polyester shield, stranded tinned copper ground drain wire (22 AWG for 9770 and 8771, 20 AWG for 8770 and 8772, 18 AWG for 8618), chrome vinyl jacket. **Color Coding:** Black, red and white except 8771, 8772, 8770 and 8618, black, red and clear.

Belden No.	Fig.	AWG and (Stranding)	Nom. O.D.	Cap.,* pF/ft.	Working Volts	Net Each, Spool of 15′	50′	100′	500′	1000′
8791°	A	18 (7 x 26)	.236″	84	450	....	.....	$33.85	$125.00*	$243.30
8735°^	B	22 (7 x 30)	.199″	60	350	$5.40	$14.20	24.40	101.85*	167.85*
8643	B	30 (7 x 38)	.086″	43	200	....	.....	28.70	66.20#	.....
8618°^	C	16 (19 x 29)	.310″	50	600	....	.....	.....	152.25*	304.50
8771°^	C	22 (7 x 30)	.179″	41	350	....	.....	32.80#	65.45*	125.00*
8772°^	C	20 (7 x 28)	.204″	51	350	....	.....	.....	75.90*	125.10*
8770°^	C	18 (16 x 30)	.236″	48	450	....	.....	.....	104.85*	172.80*
9770‡°	C	22 (7 x 30)	.145″	60	200	....	.....	43.90#	87.75*	144.60*

*Capacitance between one conductor and other conductors connected to shield. ‡Polypropylene insulated and brown vinyl jacket. °Passes the FR-1 vertical flame test. †Similar. ^U.L. Listed. #250 ft.

AUDIO, COMMUNICATION AND INSTRUMENTATION CABLES

Belden No. 9685—Two tinned copper 20 AWG (7 x 30), Beldfoil aluminum-polyester shield with 22 AWG drain wire; one tinned copper 20 AWG (7 x 30) unshielded; pair and single cabled; chrome vinyl jacket. **500′ Unreel Package,** Net..... **$67.10** **1000′ Unreel Package,** Net..... **$125.00**

Belden No. 9686—Three tinned copper 20 AWG (10 x 30) and three tinned copper 16 AWG (26 x 30), vinyl insulation, conductors cabled, chrome vinyl jacket.
500′ Unreel Package, Net..... **$155.20** **1000′ Spool,** Net..... **$310.35**

Multiple Quads Audio and Communication Cables (Fig. D): Polypropylene insulation, 22 AWG (7 x 30) tinned copper, cabled in quads, Beldfoil aluminum-polyester shield over black and red conductors, 24 AWG stranded tinned copper drain wire, clear polyester tape over entire quad, shields color-coded, chrome vinyl jacket. Nom. capacitance, 67 pF/ft. between one conductor and other conductors connected to shield. Nom. O.D., .330″ No. 8726; .450″ No. 8727. Cabled around common axis; request information before planning high and low level circuits in same cable.
Belden No. 8726°—100′ Spool, Net..$ 76.80 **500′ Spool,** Net...$287.85 **1000′ Spool,** Net..$ 575.70
Belden No. 8727°—100′ Spool, Net..151.05 **500′ Spool,** Net... 642.00 **1000′ Spool,** Net...1284.00

Multiple Triplets Audio, Communication and Instrumentation Cables (Fig. E): Tinned copper, polypropylene insulated, 22 AWG (7 x 30) conductors cabled in triplets, each shielded with Beldfoil aluminum-polyester shield, 22 AWG stranded tinned copper drain wire, .020″ white vinyl jacket, individual triplet jackets identified by color-coded stripes, triplets cabled, overall chrome vinyl jacket. Nom. capacitance, 60 pF/ft. between one conductor and other conductors connected to shield. Insulation, .008″ th. Working voltage, 300 V suggested. Conductors color coded black, red and green.
Belden No. 9771°—21 conductors (7 triplets); .550″ nom. diameter. **500′ Spool,** Net....**$ 615.25**
Belden No. 9772°—36 conductors (12 triplets); .740″ nom. diameter. **500′ Spool,** Net....**1045.50**

Telephone Cables (Fig. F): Bare copper 22 AWG (solid), polyethylene insulated, conductors cabled, rose gray vinyl jacket. Insulation, .016″ thick; jacket, .022″ thick.
Belden No. 8795—Two conductor color-coded red, green. Nom. O.D., .160″. U.L. Listed.
500′ Unreel, Net..... **$40.50** **1000′ Spool,** Net..... **$81.00***
Belden No. 8794^—Three conductor color-coded red, green, yellow. Nom. O.D., .168″. U.L. Listed.
500′ Unreel, Net..... **$42.90** **1000′ Spool,** Net..... **$85.75***
Belden No. 9794^—Four conductor color-coded green, red, yellow, black. Nom. O.D., .190″; jacket, .025″ th. **500′ Unreel,** Net..... **$53.00** **1000′ Spool,** Net..... **$105.95***
®TM: Beldfoil of Belden. *Passes the FR-1 vertical flame test. ^U.L. Listed.

MULTIPLE PAIR SHIELDED SOUND AND CONTROL CABLE (FIG. G)

Tinned copper, vinyl insulated twisted pairs, overall Beldfoil aluminum-polyester shield, stranded tinned copper drain wire, chrome vinyl jacket. UL Listed. Pass FR-1 vertical flame test.

Belden No.	No. of Pairs	AWG and (Stranding)	Nom. O.D.	Net Each, Spool of 100′	500′	1000′
9461	1	22 (7 x 30)	.000″	.....	$ 60.10*	$ 120.15*
9302	2	22 (Solid)	.224″	$ 17.50	72.75*	125.00*
9305	4	22 (Solid)	.265″	29.80	122.70*	202.20*
9306	6	22 (Solid)	.321″	35.15	131.10	262.20
9309	9	22 (Solid)	.373″	50.90	189.00	378.00
9315	15	22 (Solid)	.437″	88.65	335.85	671.70
9319	19	22 (Solid)	.475″	109.30	413.25	826.50
9327	27	22 (Solid)	.571″	125.00	562.50	1125.00
9501	1	24 (7 x 32)	.156″	13.85	56.80*	113.60*
9502	2	24 (7 x 32)	.222″	24.40	100.20*	165.15*
9503	3	24 (7 x 32)	.232″	32.80	125.00*	223.95*
9504	4	24 (7 x 32)	.252″	42.25	143.65*	287.25*
9505	5	24 (7 x 32)	.295″	52.70	179.55*	359.10*
9506	6	24 (7 x 32)	.295″	60.80	206.85*	413.70*
9507	7	24 (7 x 32)	.300″	69.45	237.10*	474.15*
9508	8	24 (7 x 32)	.330″	78.65	268.90	537.75
9509	9	24 (7 x 32)	.340″	87.75	300.15	600.30
9510	10	24 (7 x 32)	.380″	96.85	330.85	661.65
9515	15	24 (7 x 32)	.425″	125.00	486.00	972.00
9519	19	24 (7 x 32)	.450″	172.15	615.75	1211.50
9525	25	24 (7 x 32)	.530″	221.65	793.50	1585.50
9550	50	24 (7 x 32)	.715″	437.70	1564.50	3129.00

FOAM CORE TRANSMISSION LINE (FIG. H)

Belden No. 9221—Tinned copper 30 AWG, 7 x 38 stranded conductor, cellular polypropylene insulation, tinned copper shield, black vinyl jacket. Nom. cap., 17.4 pF/ft. O.D., .097″ nom. U.L. Listed.
25′ Spool, Net..... **$6.55** **100′ Spool,** Net..... **$18.05** **500′ Spool,** Net..... **$67.00***

Belden No. 8214°—RG-8/U for citizens' band and amateur radio as 50-ohm antenna cable. Copper 11 AWG, 7 x 1⅛ stranded conductor, cellular polyethylene foam insulation, bare copper braid shield with black vinyl jacket overall. Nom. cap., 26 pF/ft. Vel. of propag. 78%, nom. Nom. O.D., .405″. U.L. Listed. **50′ Spool,** Net..... **$ 27.40** **100′ Spool,** Net..... **$ 47.25**
500′ Spool, Net..... **181.60** **1000′ Spool,** Net..... **363.15**

Belden No. 8219—Same, but RG-58/AU with tinned copper 20 AWG, 19 x 32 stranded conductor, tinned copper braid shield; nom. O.D., .195″. U.L. Listed. **100′ Spool,** Net..... **$ 21.50**
500′ Spool, Net..... **$81.00*** **1000′ Spool,** Net..... **133.50***
®TM: Permohm, Duobond, Weldohm, Beldfoil and Cellufine of Belden. *Passes the FR-1 vertical flame test.

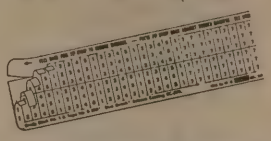
*ALSO AVAILABLE IN UNREEL PACKAGE AT SAME PRICE. #UNREEL PACKAGE ONLY.

BRADY

SELF-STICKING, STANDARDIZED PERMA-CODE WIRE MARKERS

STANDARDIZED SYSTEM OF WIRE IDENTIFICATION

Pre-cut to exact "job-tested" dimensions, Brady wire markers are available in five sizes and a variety of materials for every purpose and wire size. Supplied on easy-to-stock dispenser cards, flexible "Zip-Strip" zips open in one motion, releasing one or more markers. Each marker is partially peeled from the card automatically; ready to apply, sticking to your finger from card to wire. "Zip-Strip" presses back in place to protect unused markers when the job is completed. Exclusive "Blue Streak®" release coating insures fast marker-to-wire application. Adhesive remains at full strength for maximum adhesion without curling. Can't fall off or peel after application. **All Markers Conform to:** USASI Std. C6.1-1956; Joint Industrial Council Std. EMP-1-1967 and EGP-1-1967 covering color coding; MIL-M-22106A, Type 1 for vinyl cloth markers. Std. markers include numbers, letters, symbols and all 16 NEMA colors. **Size:** Std. markers 1½" lg. for wires to ⅜" O.D.; ¾" lg. available for wires to 5/8" O.D. (add suffix ¾ to stock numbers shown below). Cable Markers, Miniature Markers and Micro-Markers also available.





"JOB-TESTED" MATERIALS

B-605 Polyester Film—Has built-in protection against abrasion, dirt, chemicals and solvents. Legends sub-surface printed **under** Mylar†, providing permanent protection of the identification. Resists heat up to 250° F. Standard: ¾" and 1½" long. Stock cards, List Price per 100 ..... **$48.90***

B-500 Vinyl Cloth—All-temperature tape for most uses. Withstands up to 250° F. Waterproof, fungus resistant and durable. Remains pliable. Bold black legends on white. Silicon plastic overcoating for long legibility. Available in NEMA colors. Stock cards, List Price per 100 ..... **$47.50***

B-702 Vinyl Film—Has flexible vinyl backing and specially formulated oil resistant adhesive. Exceptionally conformable. Ideal for applications to irregular surfaces and small diameter wires. May be removed and re-applied. Temp. range from −20° F to +250° F. Standard: ¾" and 1½" long. List Price per 100 ..... **$47.50***

B-184 Aluminum Foil—For wires in contact with oil, grease, coolants and other solvents. Soft .003" foil hugs wire without bulk. Dull matte finish; black legends. Adhesive withstands 300° F; foil to 1215° F. Stock cards, List Price per 100 ..... **$55.20***

B-702 Miniature Markers—For small diameter wires; each 3/16" x ½" marker has four bold legends on white. For wires under 5/32" O.D.; 150 markers per card. List Price per 100 ..... **$64.80***

B-702 Micro-Markers—For flagging or marking fine wires or subminiature components. Size only 5/16" x 3/64"; 250 markers per 2" x 5" card. Vinyl only. Stock cards, List Price per 100 .... **$100.20***

B-12 Acetate Cloth—Ask for complete listing of stock items. High resistance to solvents; non-corrosive. Thermo-setting adhesive withstands 300° F indefinitely. Bond more than doubles after heat-treating at 250° F for 2 hours or 300° F for one hour. Stock cards, List Price per 100 ..... **$53.30***

‡INDUSTRIAL QUANTITY PRICE DISCOUNTS

Discounts apply to all stock cards of a given material. Cards packed 25 per box (minimum order). Shipping Weight, 2 lbs. per 100 2" x 9" cards.

Quantity (No. of Cards)	Discount Lots 100	Quantity (No. of Cards)	Discount Lots 100
25–99	None		
100–499	8%	5000–9999	35%
500–999	17%	10000 or more	Write for Quote
1000–4999	28½%		

†Reg. DuPont trademark.

COMMON, STOCK MARKER TYPES

Items listed are standard 1½" long markers except where otherwise specified Micro-Marker or Miniature Marker. For ¾" long markers, add ¾ to stock number; example: **AF1-33¾.**

NUMBERS IN SEQUENCE

Code Printing	No. per Card	B-500 Vinyl Cloth No. WM-	B-605 Polyester Film No. OLWM-	B-184 Alum. Foil No. AF-	B-702 Vinyl Film No. TWM-
1–33	33	1-33	1-33	1-33	1-33
34–66	33	34-66	34-66	34-66	34-66
67–99	33	67-99	67-99	67-99	67-99
100–124	25	100-124	100-124	100-124	100-124
etc.	25	*	§	†	§

Stocked through: *1975–1999; †250–274; §975–999.

SOLID NUMBER CARDS

0	36	0	0	0	0
1	36	1	1	1	1
2	36	2	2	2	2
etc.	36	etc.	etc.	etc.	etc.
100	25	100	100	100	100
101	25	101	101	101	101
etc.	25	†	†	*	†

*Stocked through 200. †Stocked through 600.

LETTERS IN SEQUENCE

Code Printing	No. Markers	B-500 Vinyl Cloth No. WM-	B-605 Polyester Film No. OLWM-	B-184 Alum. Foil No. AF-
A–Z (Cap. letters)	26	A-Z Cap	A-Z Cap	A-Z Cap
a–z (Small letters)	26	A-Z Sml	A-Z Sml	.....
A–Z, A–J	36	AZAJ-C	.....	.....
A–Z, 0–9	36	AZ09	.....	.....

SOLID LETTER CARDS

A (Cap. letters)	36	A-CAP	A	A
B (Cap. letters)	36	B-CAP	B	B
C etc. thru Z	36	*	*	*
a (Small letters)	36	A-SML	.....	.....
b (Small letters)	36	B-SML	.....	.....
c etc. thru z	36	*	.....	.....

*Stocked through the alphabet.

SOLID NUMBERS ON COLOR

Code Printing	No. Markers Per Card	B-500 Vinyl Cloth Number*
0	36	0-RD, -YL, -OR, -BL or -GR
1	36	1-RD, -YL, -OR, -BL or -GR
2	36	2-RD, -YL, -OR, -BL or -GR
3	36	3-RD, -YL, -OR, -BL or -GR
etc.	36	Numbers thru 50, all above colors

SEQUENCE NUMBERS OR LETTERS ON COLOR

1–33	33	1-33RD, YL, OR, GR, BR, BL or BK
34–66	33	34-66RD, YL, OR, GR, BR, BL or BK
67–99	33	67-99RD, YL, OR, GR, BR, BL or BK
100–124	25	100-124RD, YL, OR, GR, BR, BL or BK
A–Z	26	A-Z-RD, YL, OR, GR, BR, BL or BK

*Suffix indicates background color; legends are white on red, green, brown and black backgrounds; black on other colors. Colors: RD—Red; YL—Yellow; OR—Orange; GR—Green; BR—Brown; BL—Blue; BK—Black.

NEMA SOLID COLORS

Standard NEMA color strip markers without printing, 36 Markers per card.

B-500 Vinyl Cloth No. WM-*	Color	B-500 Vinyl Cloth No. WM-*	Color	B-500 Vinyl Cloth No. WM-*	Color
COL-RD	Red	COL-WT	White	COL-GY	Gray
COL-YL	Yellow	COL-BK	Black	COL-MR	Maroon
COL-LB	Lt. Blue	COL-TN	Tan	COL-OL	Olive
COL-DB	Dk. Blue	COL-BR	Brown	COL-PL	Purple
COL-LG	Lt. Grn.	COL-OR	Orange		
COL-DG	Dk. Grn.	COL-PK	Pink		

*Also available in B-605. To order use prefix **OLWM- (PS-COL-RD).**

MINIATURE AND MICRO-MARKERS

Miniature Markers on B-702 Tape—Many subminiature applications; 1/4" long markers on 9" card. **Micro-Markers:** Each marker 3/64" x 5/16" vinyl B-700 material card. Card size 2" x 5".

SOLID NUMBERS AND LETTERS

Code Printing	Miniature B-702 No. TMM-	Miniature B-702 No. of Markers	Micro-Markers No. TMXM-	Micro-Markers No. of Markers
0	0	150	0	250
1	1	150	1	250
2	2	150	2	250
etc.	*	150	*	250
26	26	150	.....	...
etc.	†	99	.....	...
A (Cap. letter)	A-CAP	150	.....	...
B (Cap. letter)	B-CAP	150	.....	...
etc.	‡	150	.....	...

*Through No. 25. †Through No. 500. ‡Through whole alphabet.

NUMBERS IN SEQUENCE

0–49	0-49	150	0-49	250
50–99	50-99	150	50-99	250
100–132	100-132	99	.....	...
etc.	*	99	.....	...

*Through 463–495 in units of 33 (3 sets per card, totaling 99 markers).

BRADY "COMBINATION-PAC"

Box of 25 different B-500 Vinyl Cloth marker cards assembled in most-used combinations.

Brady No.	Assortment (1 each card)	List Ea. Box*
CPCWM-1-25	Solid Nos. 1 thru 25*	$13.80
CPCWM-26-50	Solid Nos. 26 thru 50*	13.80
CPCWM-51-75	Solid Nos. 51 thru 75*	13.80
CPCWM-76-100	Solid Nos. 76 thru 100*	13.80
CPCWM-101-125 etc. thru	Solid Nos. 101 thru 125*	13.80
CPCWM-576-600	Solid Nos. 576 thru 600*	13.80
CPCWM-A-Z	Solid Letters A thru Z†	13.80

*One card for each number (or letter); total, 25 cards; †26 cards. *Industrial Discounts: 1–3 boxes, none. 4–9 boxes, −8%. 10–19 boxes, −17½%. 20–99 boxes, 27½%. 100–199 boxes, −35%. Write for quote on 200 boxes or more.

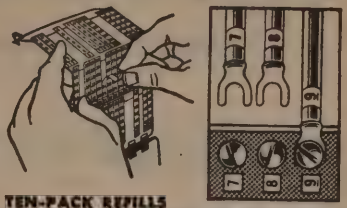
Write for complete listings of Machine Tool Symbols, Write-On Labels and other stock marker cards also available.

SELF-STICKING WIRE MARKERS, INSTANT SIGN SYSTEMS

PORTA-PACK® WIRE MARKERS

All-in-One Kits—Ready for Instant Wire Marking Anywhere
Economical . . . Handy . . . Easy to Use . . . Refillable
Flip-Strip Cards Keep Markers in Perfect Condition, Prevent Damage to Legends and Adhesive

andy, positive wire identification for the technician on-the-move! Porta-Pack is a ompact book of wire markers that's just the right size to slip in a shirt pocket or tool kit. lounted on flip-strip cards that pop up the ones you need for easy removal and fast pplication. Each pack contains ten cards with up to 450 individual, full size (900 half ze) wire markers, plus 450 matching terminal markers. Full length for large diameter ires; half length for wires under ¼" O.D. Tough vinyl cloth markers are made from rady's performance-tested B-500 tape and backed with time-proven adhesive. Flip-Strip ards keep markers in perfect condition, prevent damage to legends nd adhesive. Available in 13 stock combinations of numbers, tters, symbols, colors, and write-ons. Porta-Packs can be refilled ith Ten-Pack cards listed below.



PORTA-PACK MARKER KITS

orta-Packs PWM-PK-1 thru PWM-PK-11 each contain 450 ire markers and 450 matching terminal markers.

Brady No.	Code Printing and Quantity	Brady No.	Code Printing and Quantity
WM-PK-1	45 ea., 0–9	PWM-PK-10	45 ea., 10 diff. NEMA colors
WM-PK-2	10 ea., A-Z, 0–15, +, −, /	PWM-PK-11	15 ea., 1–30
WM-PK-3	10 ea., 1–45	PWM-PK-12	15 ea., A-Z; 21 blank write-on labels; 8+; 7−
WM-PK-4	150 ea., 1, 2, 3		
WM-PK-5	150 ea., A, B, C		
WM-PK-6	150 ea., T1, T2, T3	PWM-PK-13	45 ea., +, −, AC, DC; 33 ea., POS, NEG, GND; 27 NEUT; 21 ea., SPARE, blank write-on labels
WM-PK-7	150 ea., L1, L2, L3		
WM-PK-8	6 ea., 1–15; 4 ea., 16–90; 2 ea., A-Z, +, −, /, 0		
WM-PK-9	45 ea., 1, 2, 3, A, B, C; 30 ea., T1, T2, T3, L1, L2, L3	PWM-PK-14	10 ea., 46–90
		PWM-PK-15	5 ea., 1–45, 46–90

PORTA-PACK AND TEN-PACK PRICES

Brady No.	Net Each, Lots of			
	1-9	10-49	50-99	100-499
PWM-*	$8.10	$6.50	$5.90	$5.20
PWM-PK*	8.10	6.50	5.90	5.20

To order, add appropriate suffix from tables to Brady No.; e.g., WM-8, PWM-PK-1, PWMC-RD, etc.

TEN-PACK REFILLS

Each Ten-Pack contains ten identical flip-strip dispenser cards of wire markers and terminal markers (less covers and combs). May be used to refill Porta-Packs or to create special combinations for specific marking needs.

Brady No.	Code Printing	Brady No.	Code Printing
PWM-0	0	PWM—D–F	D, E, F
PWM-1	1	PWM—G–I	G, H, I
PWM-2 thru PWM-200	2 thru 200	PWM—J–L	J, K, L
		PWM—M–O	M, N, O
PWM-0–9	0–9	PWM—P–R	P, Q, R
PWM-10–19	10–19	PWM—S–U	S, T, U
PWM-20–29 thru PWM-190–199	20–29 thru 190–199	PWM—V–X	V, W, X
		PWM—Y, Z, +, −	Y, Z, +, −
PWM-A	A	PWM-W/O	Write-On Labels
PWM-B	B	PWM—T1-T3	T1-T3
PWM-C thru PWM-Z	C thru Z	PWM—L1-L3	L1-L3
		PWM-PLS	+
PWM-A–Z, 0–15	A–Z, 0–15	PWM-MIN	−
PWM—1–45	1–45	PWM-POS	POS
PWM—46–90	46–90	PWM-NEG	NEG
PWM—1–3	1–3	PWM-AC	AC
PWM—4–6	4–6	PWM-DC	DC
PWM—7–9	7–9	PWM-GND	GND
PWM—10–12	10–12	PWM-NEUT	NEUT
PWM—13–15	13–15	PWM-SPR	SPARE
PWM—16–18	16–18	PWMC-RD	Red*
PWM—19–21	19–21	PWMC-YL	Yellow*
PWM—22–24	22–24	PWMC-LB	Light Blue*
PWM—25–27	25–27	PWMC-LG	Light Green*
PWM—28–30	28–30	PWMC-WT	White*
PWM—A–C	A, B, C	PWMC-BK	Black*
		PWMC-BR	Brown*
		PWMC-OR	Orange*
		PWMC-GY	Gray*
		PWMC-DG	Dark Green*

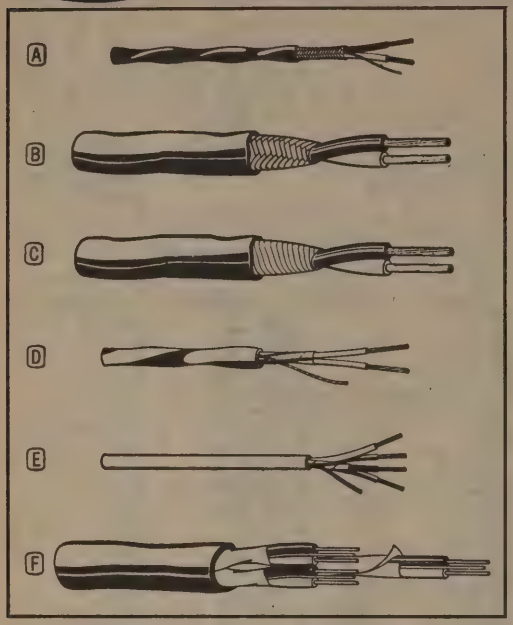
*NEMA solid colors without printing.

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

Boston Phone (617) 328-4600



SHIELDED AUDIO CABLE

BRAID SHIELD, PVC JACKET, DRAIN WIRE (FIG. A)

Tinned copper conductors, .015″ black and red PVC insulation, conductors cabled, tinned copper braid shield, tinned copper drain wire, .025″ thick black PVC jacket overall. Temperature, −20° to +60° C. For use in recording studios, radio transmitters, sound systems, broadcasting.

Columbia No.	No. of Cond.	Size AWG	Strand.	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C2676	2	22	Solid	.200	$10.05	$50.90
C2677	2	22	16/34	.210	12.00	52.45

BRAID SHIELD, PVC JACKET (FIG. B)

Same as above, but without drain wire. Solid conductors have .015″ PVC insulation; 22 and 20 ga., .015″; 18 and 16 ga., .018″; 14 ga., .020″. Color Code: 1, black; 2, red; 3, white; 4, green. Chrome gray .020″ thick PVC jacket overall.

Columbia No.	No. of Cond.	Size AWG	Strand.	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C2695	2	20	Solid	.210	$11.25	$53.05
C2696	2	18	Solid	.220	13.50	64.35
C2679	2	22	7/30	.185	10.00	43.90
C2678	3	22	7/30	.200	11.70	49.25
C2680	4	22	7/30	.210	16.00	69.70
C2681	2	20	10/30	.204	13.35	54.70
C1332	3	20	10/30	.214	15.90	74.25
C2683	4	20	10/30	.232	18.20	83.15
C2686	2	18	16/30	.224	14.80	62.75
C2687	3	18	16/30	.236	26.70	111.50
C2689	2	16	26/30	.250	22.90	108.75
C2690	3	16	26/30	.259	28.65	135.95
C2691	2	14	41/30	.290	27.55	131.05
C2692	3	14	41/30	.295	38.00	180.60

SPIRAL SHIELD, PVC JACKET (FIG. C)

Tinned copper conductors, color-coded PVC insulation, conductors cabled, tinned copper spiral shield, gray PVC jacket overall. Spiral shield permits easy pigtail soldering. Jacket, .020″ thick. Insulation, .015″ thick except 18 and 16-gauge, .018″ thick. Color Code: 1, black; 2, red; 3, white; 4, green; 5, yellow; 6, blue.

Columbia No.	No. of Cond.	Size AWG	Strand.	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C2884	2	22	Solid	.170	$ 7.90	$ 33.15
C2885	3	22	Solid	.178	7.75	36.85
C2882	2	22	7/30	.175	8.50	36.40
C1335	3	22	7/30	.190	14.70	58.00
C1337	4	22	7/30	.200	17.55	85.60
C1341	6	22	7/30	.235	22.40	106.20
C2888	2	20	10/30	.195	10.75	42.75
C2893	3	20	10/30	.210	18.30	71.65
C2769	4	20	10/30	.225	21.80	78.35
C2770	6	20	10/30	.265	27.25	119.70
C2892	2	18	16/30	.230	13.30	56.35
C2768	3	18	16/30	.235	16.25	71.40
C2894	4	18	16/30	.245	23.45	94.30
C2895	2	16	26/30	.240	16.65	72.85
C2896	3	16	26/30	.245	23.60	95.70

MYLAR/ALUMINUM FOIL SHIELDED AUDIO CABLE (FIG. D)

STANDARD SIZE

Tinned copper conductors with color-coded polyethylene insulation: 22 and 20 ga., .015″ thick; 18 ga., .018″; 16 ga., .025″. Conductors cabled and wrapped with Flexfoil® Mylar* supported aluminum foil shield; stranded, tinned copper drain wire over shield; chrome gray PVC jacket overall. Cable is 100% shielded for recording studios, broadcast sound systems and electronic circuits where RF shielding is required. Conductors Color Coded: 1, black; 2, clear; 3, red; 4, green.

Columbia No.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C2513	2	24 (7/32)	.160	.025	$ 7.20	$29.30
C2514	2	22 (7/30)	.170	.025	6.35	29.55
C2526	3	22 (7/30)	.175	.025	8.00	37.10
C2523	4	22 (7/30)	.190	.025	11.35	53.90
C2524	2	20 (10/30)	.195	.025	9.10	37.10
C2525	3	20 (10/30)	.200	.028	10.05	46.80
C2534	2	18 (16/30)	.222	.028	9.55	44.40
C2535	3	18 (16/30)	.236	.028	12.85	59.55
C2536	2	16 (26/30)	.274	.030	14.10	66.95
C2537	3	16 (26/30)	.300	.030	18.85	89.55

MINIATURE SIZE

Requires ½ to ⅔ less space than standard broadcast cables. Same construction as above, but with color-coded polypropylene insulation, .008″ thick. Color Code: 1, black; 2, red; 3, white.

C2515	2	22 (Solid)	.125	.018	$7.75	$28.00
C2516	2	22 (7/30)	.135	.020	8.35	32.55
C2517	3	22 (7/30)	.145	.020	8.95	42.45

*Registered DuPont trademark.

SHIELDED INSTRUMENTATION/COMMUNICATION MULTIPLE QUAD CABLE (FIG. E)

Tinned copper conductors with color-coded* polypropylene insulation, .008″ thick (No. 1331 has color-coded* PVC insulation, .015″ thick); Flexfoil® aluminum foil/polyester shield over two conductors; stranded tinned copper drain wire; one shielded pair and two singles cabled on common axis to reduce O.D.; chrome gray PVC jacket overall. For audio, communications and instrumentation use.

Columbia No.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C1340	4*	22 (7/30)	.195	.020	$10.90	$25.00
C1331	4*	20 (10/30)	.250	.025	13.75	33.60

*Two shielded (black and red), two unshielded (green and white).

INDIVIDUALLY SHIELDED MULTIPLE PAIR AUDIO/DATA CABLE (FIG. F)

POLYPROPYLENE INSULATION, PVC JACKET

Tinned copper conductors; color-coded polypropylene insulation .008″ thick except 18 ga., .016″ thick; cabled in pairs with each pair and its drain wire under Flexfoil® aluminum foil/polyester shield; chrome gray PVC jacket overall. Color Code: Same as unshielded, paired cable on following page. Polypropylene insulation assures excellent high frequency properties and mechanical durability. Temperature: Up to 105° C. Working Voltage: 300 V (50 V between adjacent shields). Voltage Breakdown: 1500 V between adjacent shields. Insulation Resistance: 100 megohms/M between shields. Capacitance: 115 pF/ft. between adjacent shields. For audio, RF and pulse applications requiring superior circuit isolation.

Columbia No.	No. of Prs.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C6040	3	6	22 (7/30)	.265	.030	$ 21.80	$ 101.35
C6041	6	12	22 (7/30)	.360	.035	43.95	212.60
C6042	9	18	22 (7/30)	.420	.040	71.20	311.80
C6043	11	22	22 (7/30)	.460	.040	77.55	369.65
C6044	15	30	22 (7/30)	.530	.045	101.80	490.30
C6045	19	38	22 (7/30)	.580	.055	138.00	653.75
C6046	27	54	22 (7/30)	.720	.070	.....	1858.20*
C6047	3	6	18 (16/30)	.375	.035	34.55	156.50
C6048	6	12	18 (16/30)	.555	.045	70.45	320.00
C6049	9	18	18 (16/30)	.620	.055	107.00	482.85
C6050	12	24	18 (16/30)	.765	.070	141.35	643.30

*Cut to length; max. 1000′; min. 100′.

PVC INSULATION AND JACKET

Construction same as above, but with color-coded .015″ thick PVC insulation for temperatures from −20° to +60° C.

C6035	3	6	22 (Solid)	.280	.030	$19.25	$ 87.20
C6036	6	12	22 (Solid)	.400	.035	39.25	181.95
C6037	9	18	22 (Solid)	.455	.040	53.30	258.65
C6039	11	22	22 (Solid)	.500	.040	64.20	306.95
C6038	15	30	22 (Solid)	.555	.045	88.30	420.90

PAIRED MULTI-CONDUCTOR CABLE (FIG. A)

Tinned copper conductors; insulation .010" thick except 18 ga., .018" thick color-coded PVC; conductors paired with a short lay twist for conductor balance providing a circuit free from cross-talk; pairs cabled with chrome gray PVC jacket overall. Heavy duty cable for use in audio, intercom, signal systems, annunciators, nurse call systems, control circuits and multiple speaker systems.

Columbia No.	No. of Pairs	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C4008	1	2	22 (Solid)	.130	.020	$ 4.80	$ 17.10
C4010	2	4	22 (Solid)	.195	.020	8.05	31.95
C4014	3	6	22 (Solid)	.220	.020	10.70	44.55
C4017	6	12	22 (Solid)	.275	.020	17.40	78.60
C4018	7	14	22 (Solid)	.285	.020	25.00	104.90
C4020	9	18	22 (Solid)	.310	.020	25.40	117.60
C4022	11	22	22 (Solid)	.340	.020	32.15	151.60
C4024	13	26	22 (Solid)	.380	.025	36.05	171.05
C4026	15	30	22 (Solid)	.400	.025	43.60	202.70
C4028	16	32	22 (Solid)	.420	.025	50.80	223.40
C4030	27	54	22 (Solid)	.510	.035	75.25	349.85
C4038	51	102	22 (Solid)	.630	.045	166.70	792.00
C6010	2	4	22 (7/30)	.210	.020	7.90	37.65
C6014	3	6	22 (7/30)	.225	.020	11.80	55.85
C6015	4	8	22 (7/30)	.240	.020	15.00	71.35
C6017	6	12	22 (7/30)	.290	.020	21.00	95.90
C6019	9	18	22 (7/30)	.355	.020	31.35	147.00
C6023	12	24	22 (7/30)	.410	.025	42.60	202.30
C6026	15	30	22 (7/30)	.450	.025	52.30	247.15
C6027	19	38	22 (7/30)	.480	.025	65.50	311.30
C6028	23	46	22 (7/30)	.530	.030	84.20	400.00
C6030	27	54	22 (7/30)	.570	.035	100.60	467.90
C6025	51	102	22 (7/30)	.800	.045	187.15	888.48
C6103	3	6	18 (16/30)	.360	.035	23.95	107.00
C6106	6	12	18 (16/30)	.555	.045	49.20	224.05
C6019	9	18	18 (16/30)	.638	.055	69.10	326.65
C6110	12	24	18 (16/30)	.690	.055	91.40	434.35
C6111	15	30	18 (16/30)	.800	.060	113.90	541.05
C6112	19	38	18 (16/30)	.880	.070	144.10	684.35

CONDUCTOR COLOR CODE

No. Prs.	Paired Colors	No. Prs.	Paired Colors	No. Prs.	Paired Colors
1	Black, Red	18	Green, Yellow	35	Purple, Slate
2	Black, White	19	White, Blue	36	Purple, Black
3	Black, Green	20	White, Brown	37	Slate, Red
4	Black, Blue	21	White, Orange	38	Slate, White
5	Black, Brown	22	White, Yellow	39	Slate, Green
6	Black, Yellow	23	Blue, Brown	40	Slate, Blue
7	Black, Orange	24	Blue, Orange	41	Slate, Brown
8	Red, Green	25	Blue, Yellow	42	Slate, Yellow
9	Red, White	26	Brown, Orange	43	Slate, Orange
10	Red, Blue	27	Brown, Yellow	44	Slate, Black
11	Red, Yellow	28	Purple, Red	45	W/B*, Red
12	Red, Brown	29	Purple, White	46	W/B*, Green
13	Red, Orange	30	Purple, Green	47	W/B*, Blue
14	Green, Blue	31	Purple, Blue	48	W/B*, Brown
15	Green, White	32	Purple, Brown	49	W/B*, Yellow
16	Green, Brown	33	Purple, Yellow	50	W/B*, Orange
17	Green, Orange	34	Purple, Orange	51	W/B*, Purple

*White body with black stripe.

TWO-CONDUCTOR MICROPHONE CABLE

Tinned copper conductors; white and black polyethylene insulation, .025" thick except No. 1328, .016" thick; cabled with fillers, textile wrap, spiral or braided tinned copper shield and high gloss silver gray Flexlife® jacket overall. For use with low impedance microphones. Flexlife jacket provides extreme flexibility and high abrasion resistance.

SPIRAL SHIELD (FIG. B)

Columbia No.	Impedance	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C1323	Low	22 (16/34)	.225	.025	$16.55	$73.50
C1328	Min. Low	24 (10/34)	.180	.030	16.40	75.10

BRAIDED SHIELD (FIG. C)

C1322	Low	22 (16/34)	.235	.025	$16.70	$71.70

SPIRAL SHIELD MICROPHONE CABLE (FIG. D)

Single conductor 25 ga., 7/33 stranded (3 strand tinned copper, 4 strands tinned Copperweld*) white foam polyethylene dielectric, spiral tinned copper shield, silver gray high gloss Flexlife® jacket. For use with high impedance microphones and as hi-fi interconnecting cable. *Registered Copperweld Steel Corp. TM.

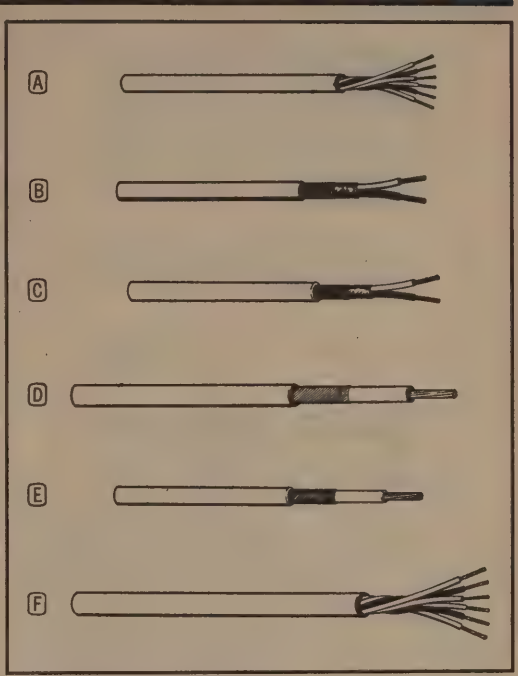
Columbia No.	Microphone Type	Nom. O.D. In.	Thickness, In. Insulation	Thickness, In. Jacket	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C1359	Min.	.085	.016	.012	$ 7.75	$30.95
C1369	Lapel	.140	.030	.020	9.85	38.05
C1389	Crystal	.190	.050	.025	10.15	45.20
C1395	Crystal	.250	.075	.030	13.90	63.80
C1314*	Crystal	.160	.040	.020	9.85	41.70

*Solid polyethylene dielectric.

BRAIDED SHIELD MICROPHONE CABLE (FIG. E)

Same as above, but with braided, tinned copper shield. Foam polyethylene dielectric.

C1379	Lapel	.145	.030	.020	$10.90	$45.20
C1399	Crystal	.200	.050	.025	13.60	52.85



UNPAIRED MULTI-CONDUCTOR CABLE (FIG. F)

Tinned copper conductors (except Columbia Nos. 2754 and 2755, bare copper), color-coded PVC insulation, conductors cabled, chrome gray PVC jacket overall. Operating temp., −20° C to +60° C. For use in PA systems, unbalanced intercom systems, inter-connecting cables, remote control circuits, telephones, low-voltage relay control cables.

SOLID CONDUCTORS

Columbia No.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.	Net Each, Spool of 1000 ft.
C4008	2	22 (1)	.130	$ 4.80	$17.10	$34.20
C4310	3	22 (1)	.140	4.95	24.10	47.90
C4311	2	20 (1)	.170	5.25	22.85	44.90
C2754	2	19 (1)	.165	4.90	23.35	46.70
C2755	3	19 (1)	.175	7.10	33.45	66.85

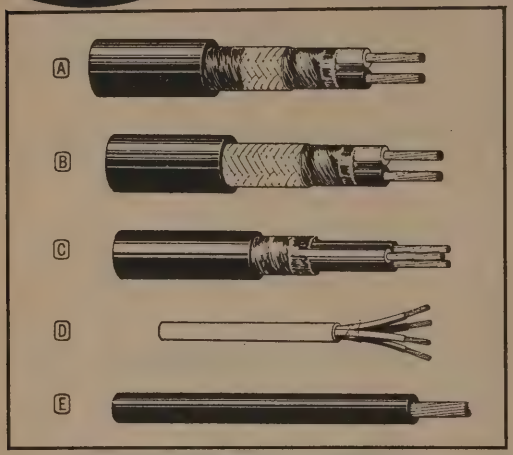
STRANDED CONDUCTORS

C6348	2	22 (7/30)	.140	$ 5.00	$ 19.30	$ 38.55
C4062	3	22 (7/30)	.150	5.90	23.95	47.90
C4063	4	22 (7/30)	.170	7.90	32.70	65.40
C4064	5	22 (7/30)	.175	9.25	39.05	78.05
C4066	6	22 (7/30)	.185	10.30	46.40	92.30
C4088	7	22 (7/30)	.190	11.00	52.25	104.50
C4065	8	22 (7/30)	.200	17.75	62.40	124.80
C4070	9	22 (7/30)	.225	17.15	82.00	163.35
C4071	10	22 (7/30)	.235	17.85	80.70	161.35
C4067	12	22 (7/30)	.265	21.40	97.25	194.50
C4073	15	22 (7/30)	.290	33.80	149.70	299.40
C4076	25	22 (7/30)	.360	52.90	241.90	462.85
C6351	2	20 (10/30)	.180	6.15	22.70	45.35
C6352	3	20 (10/30)	.190	9.75	35.89	71.34
C6353	4	20 (10/30)	.215	9.68	42.47	84.93
C2830	2	18 (16/30)	.200	8.45	33.95	67.90
C2831	3	18 (16/30)	.210	10.05	46.25	91.20
C2404	4	18 (16/30)	.250	14.55	63.75	127.45
C2405	2	16 (26/30)	.235	10.30	48.75	97.45
C2406	3	16 (26/30)	.255	15.60	74.20	148.20
C2409	2	14 (41/30)	.332	16.25	77.30	154.75
C2410	2	12 (65/30)	.384	22.90	108.90	217.75

CONDUCTOR COLOR CODE

No. 2754 has red and white conductors; No. 2755 has red, white and green; Nos. 2409 and 2410 have black and white. All other cables above have conductors as indicated in this table. First color is body; second or third colors are stripes.

No.	Color	No.	Color	No.	Color
1	Black	10	Gray	19	White/Yellow
2	Red	11	Pink	20	White/Blue
3	White	12	Tan	21	White/Brown
4	Green	13	Red/Green	22	White/Orange
5	Orange	14	Red/Yellow	23	White/Gray
6	Blue	15	Red/Black	24	White/Violet
7	Brown	16	White/Black	25	White/Black/Red
8	Yellow	17	White/Red		
9	Purple	18	White/Green		



SHIELDED CONTROL CABLE (FIG. A)

Stranded tinned copper conductors, color-coded rubber insulation, cabled and filled where required; cotton wrap over conductors; tinned copper braided shield; cotton wrap; black rubber or neoprene jacket. Resistant to impact and abrasion; extra flexible. For conductor color code, see Table I at bottom of this page. Flexible cables used for control circuits, video and audio interconnecting cable, broadcast and studio uses. Neoprene jacket type recommended for resistance to oil, ozone, moisture, sunlight.

NEOPRENE JACKET—HEAVY DUTY

Columbia No.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C1201	1	18 (41/34)	.240	$ 20.90	$ 98.00
C1202	2	18 (41/34)	.295	29.25	109.70
C1203	3	18 (41/34)	.305	48.90	183.35
C1204	4	18 (41/34)	.330	61.10	229.10
C1206	6	18 (41/34)	.370	82.10	307.70
C1208	8	18 (41/34)	.420	107.60	403.60
C1210	10	18 (41/34)	.480	146.50	549.35
C1212	12	18 (41/34)	.555	189.40	710.15
C1215	15	18 (41/34)	.640	250.20	938.20
C1602	2	16 (65/34)	.335	50.75	190.20
C1603	3	16 (65/34)	.355	56.00	209.90
C1604	4	16 (65/34)	.385	65.65	246.25
C1606	6	16 (65/34)	.445	130.35	488.90
C1608	8	16 (65/34)	.510	156.35	586.20
C1610	10	16 (65/34)	.575	182.75	877.75
C1612	2	14 (41/30)	.395	72.75	282.40
C1613	3	14 (41/30)	.425	94.25	353.45
C1614	4	14 (41/30)	.455	108.50	406.95
C1616	6	14 (41/30)	.515	147.45	553.00
C1622	2	12 (65/30)	.440	123.00	461.05
C1623	3	12 (65/30)	.465	154.20	578.35
C1624	4	12 (65/30)	.505	180.60	677.15
C1632	2	10 (105/30)	.495	158.45	594.20
C1633	3	10 (105/30)	.520	198.60	744.70

RUBBER JACKET—HEAVY DUTY

C1303	2	18 (41/34)	.295	$ 22.45	$106.05
C1300	1	20 (26/34)	.230	16.95	78.95
C1302	2	20 (26/34)	.270	25.95	97.40
C1304	3	20 (26/34)	.285	29.30	110.10
C1308	5	20 (26/34)	.330	40.90	153.45
C1310	6	20 (26/34)	.345	50.45	189.25
C1312	7	20 (26/34)	.360	54.95	205.90
C1313	8	20 (26/34)	.385	61.05	228.90
C1315	10	20 (26/34)	.440	116.70	438.00
C1316	12	20 (26/34)	.525	124.70	467.60
C1317	15	20 (26/34)	.595	170.95	641.05
C1325	20	20 (26/34)	.660	213.75	801.50

SHIELDED CONTROL CABLE (FIG. B)

POLYETHYLENE INSULATION AND PVC JACKET

Multi-conductor cables have low capacity polyethylene insulation over flexible stranded tinned copper conductors. Each conductor 20 gauge, 26/34 stranding. Rayon wrap and tinned copper braided shield over conductors. Chrome gray PVC jacket overall. Insulation, .015″ thick; jacket, .035″ thick except No. 1642, .030″ thick. Precision engineered to prevent cross-talk and eliminate hum pick-up. For conductor color code, see Table I at bottom right.

Columbia No.	No. of Cond.	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C1642	2	.245	$ 15.65	$ 63.15
C1643	3	.250	23.35	103.05
C1644	4	.260	25.15	113.35
C1645	5	.275	29.30	132.60
C1646	6	.300	38.35	169.40
C1648	8	.330	45.20	212.60
C1650	10	.375	70.30	317.45
C1652	12	.380	94.25	447.30
C1655	15	.410	143.20	692.25
C1660	20	.455	183.75	888.95

UNSHIELDED CONTROL CABLE

RUBBER INSULATION AND RUBBER JACKET (FIG. C)

For control circuits, broadcast and studio use, traffic and fire alarm control, temperature control systems, etc. Tinned copper conductors; color-coded rubber insulation, .020″ thick; cabled and filled; cotton wrap; black rubber jacket, .035″ thick. Each conductor 20 gauge, 26/34 stranding. Temperature, −20° to +60° C. Working voltage, 350 V. Extra limp; resists impact, abrasion. For conductor color code, see Table I.

Columbia No.	No. of Cond.	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C3602	2	.240	$ 14.40	$ 54.05
C3603	3	.255	15.75	59.10
C3604	4	.275	21.50	80.70
C3605	5	.300	22.30	107.00
C3606	6	.315	28.35	106.40
C3607	7	.325	38.35	168.15
C3608	8	.360	48.05	180.15
C3610	10	.410	69.80	261.60
C3612	12	.435	97.00	363.95
C3615	15	.505	136.70	512.70
C3620	20	.570	178.50	669.50

PVC INSULATION AND PVC JACKET (FIG. D)

Tinned copper conductors, color-coded PVC insulation .018″ thick (.030″ thick for 16 gauge), Mylar* binder overall (except Nos. 2404, 2420, 2421 and 2422), chrome gray PVC jacket. For conductor color code, see Table II at bottom of this page.

*Registered DuPont TM.

Columbia No.	No. of Cond.	AWG (Stranding)	Nom. O.D. In.	Jacket Thick. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 500 ft.
C2404	4	18 (16/30)	.250	.030	$ 14.55	$ 63.75
C2420	5	18 (16/30)	.286	.037	17.85	81.20
C2421	7	18 (16/30)	.324	.037	25.20	113.65
C2422	9	18 (16/30)	.379	.037	32.45	150.80
C2412	12	18 (16/30)	.412	.040	44.70	215.95
C2423	15	18 (16/30)	.490	.045	61.00	286.60
C2424	19	18 (16/30)	.505	.045	71.40	339.20
C2425	4	16 (19/29)	.375	.045	23.90	111.70
C2434	5	16 (19/29)	.405	.045	31.40	130.90
C2426	7	16 (19/29)	.455	.045	44.10	196.70
C2435	9	16 (19/29)	.525	.045	51.20	243.05
C2427	12	16 (19/29)	.620	.045	71.85	331.50
C2428	15	16 (19/29)	.650	.060	100.60	476.85
C2429	19	16 (19/29)	.715	.065	123.35	579.10

UL HOOK UP WIRE (FIG. E)

Tinned copper conductor, color-coded PVC insulation. Resistant to acids, oil, alkalies, flame, moisture and fungus. For use in internal wiring of electronic and electrical equipment. UL Listed. Available in white, black, red, green, yellow, light blue, brown, orange, gray and violet colors.

STYLE 1015, CSA TYPE TEW

Voltage rating, 600 volts. Operating temp., −40° C to +105° C. Nominal insulation thickness, .032″.

Columbia No.	AWG (Stranding)	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 1000 ft.
C2117	22 (1)	.090	$2.90	$16.05
C2118	20 (1)	.097	3.00	21.05
C2119	18 (1)	.105	3.45	27.55
C2100	24 (7/32)	.088	3.80	16.35
C2101	22 (7/30)	.095	3.20	16.20
C2102	20 (10/30)	.102	3.90	20.75
C2103	18 (16/30)	.112	4.40	26.65
C2104	16 (26/30)	.125	7.15	35.95
C2105	14 (41/30)	.142	10.80	50.95

UL STYLE 1007

Voltage rating, 300 volts. Operating temp., −40° C to +80° C. Nominal insulation thickness, .016″.

C2003	24 (1)	.054	$2.25	$11.55
C2004	22 (1)	.059	2.45	12.45
C2028	20 (1)	.066	2.25	15.90
C2052	18 (1)	.079	4.25	30.60
C2053	16 (1)	.089	5.50	39.90
C2015	24 (7/32)	.056	2.10	13.30
C2016	22 (7/30)	.062	2.45	15.60
C2040	20 (10/30)	.071	2.75	18.00
C2064	18 (16/30)	.080	3.60	25.90
C2065	16 (26/30)	.095	5.50	39.60

CONDUCTOR COLOR CODES

First color is body color; second color is stripe.

TABLE I

No.	Color	No.	Color	No.	Color
1	Black	8	Orange	15	White/Blue
2	White	9	Gray (Slate)	16	White/Brown
3	Red	10	Purple	17	White/Purple
4	Green	11	White/Black	18	White/Gray
5	Yellow	12	White/Red	19	Black/Red
6	Blue	13	White/Green	20	Black/Yellow
7	Brown	14	White/Yellow		

TABLE II

No.	Color	No.	Color	No.	Color
1	Black	8	Red/Black	15	Blue/White
2	White	9	Green/Black	16	Black/Red
3	Red	10	Orange/Black	17	White/Red
4	Green	11	Blue/Black	18	Orange/Red
5	Orange	12	Black/White	19	Blue/Red
6	Blue	13	Red/White		
7	White/Black	14	Green/White		

MACHINE TOOL WIRE (FIG. A)

LIGHT WALL, MTW/AWM (90° C) TEW/AWM (105° C)

Bare copper conductor, color-coded PVC insulation. Meets NMTBA requirements. UL and CSA Listed. CSA listed as TEW sizes 18 AWG through 10 AWG. UL and CSA types TEW and AWM: 105° C in air, 60° C in water, 60° C in oil, 600 volts. UL and NMTBA type MTW: 90° C in air, 60° C in water, 60° C in oil, 600 volts. Sizes 18 AWG to 10 AWG, UL style 1015 and 1335. Resistant to acids, oil, alkalis, flame, moisture and fungus. 600V wire for appliance and machine wiring use.

Columbia No.	AWG (Stranding)	Nom. Insul. Thick. In.	Nom. O.D. In.	Stock Colors†	Net Each, Spool of 500 ft.
C7800	18 (16/30)	2/64	.113	1–10	$15.29
C7810	16 (26/30)	2/64	.125	1–11	19.65
C7802	14 (19)	2/64	.139	1–14	27.11
C7803	12 (19)	2/64	.158	1–11	40.40
C7804	10 (19)	2/64	.182	1–7, 11	60.93

HEAVY WALL, THW/MTW (90° C)

Bare copper conductor, color-coded PVC insulation. Meets NMTBA requirements. UL Listed. Listed as THW by NEC. Rated 90° C in air, 60° C in water, 60° C in oil. Resistant to acids, oil, alkalis, flame, moisture and fungus. Sizes 14 AWG to 10 AWG, UL style 1400 and 1335; 8 AWG, UL style 1401 and 1336. 600V wire for building and machine tool applications.

Columbia No.	AWG Stranding)	Nom. Insul. Thick. In.	Nom. O.D. In.	Stock Colors†	Net Each, Spool of 500 ft.
C7801	14 (19)	3/64	.171	1–12	$ 29.39
C7811	12 (19)	3/64	.190	1–11	44.02
C7812	10 (19)	3/64	.214	1–7, 11	64.55
C7813	8 (19)	4/64	.277	1–4	106.94

†STOCK COLORS

No.	Color	No.	Color	No.	Color
1	Black	6	Orange	11	Pink
2	White	7	Yellow	12	Light Blue
3	Red	8	Brown	13	Tan
4	Blue	9	Purple	14	Light Green
5	Green	10	Gray		

PORTABLE SERVICE AND POWER CORD (FIG. B)

Stranded bare copper conductors, color-coded rubber insulation. Cabled with fillers. Cotton wrap between conductors and jacket. UL Listed. Best suited for use in electric appliances, power tools and business machines, etc.

NEOPRENE JACKET

Columbia No.	No. of Cond.	Size AWG	Type	Volt Rating	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 250 ft.
C1477	2	18	SVO	300V	.250	.....	$24.25
C1478	2	18	SJO	300V	.305	.....	24.65
C1479	3	18	SJO	300V	.330	.....	29.85
C1481	2	16	SJO	300V	.330	.....	30.60
C1482	3	16	SJO	300V	.360	.....	39.55
C1484	2	18	SO	600V	.385	.....	34.70
C1485	3	18	SO	600V	.400	.....	40.70
C1487	2	16	SO	600V	.400	.....	39.55
C1488	3	16	SO	600V	.425	.....	42.90

RUBBER JACKET

C1420	2	18	SV	300V	.250	.....	$20.90
C1425	2	18	SJ	300V	.305	.....	21.25
C1435	3	18	SJ	300V	.345	.....	28.00
C1438	4	18	SJ	300V	.365	.....	39.00
C1445	2	16	SJ	300V	.325	.....	24.00
C1450	3	16	SJ	300V	.375	.....	34.00
C1446	4	16	SJ	300V	.395	$20.00	46.00
C1500	2	14	S	600V	.540	.....	50.40
C1505	3	14	S	600V	.565	.....	61.95
C1509	4	14	S	600V	.605	.....	79.10
C1510	2	12	S	600V	.580	.....	64.93
C1515	3	12	S	600V	.635	.....	84.35
C1517	2	10	S	600V	.650	33.35	77.60
C1519	3	10	S	600V	.760	.....	109.70

TYPE SPT LAMP AND POWER CORD (FIG. C)

Plastic lamp cord with polarity ridge over one conductor. Rip type construction. UL Listed. For fans, lamps, radios, TV, stereo speakers, signs, etc. Specify brown, white, gray or black.

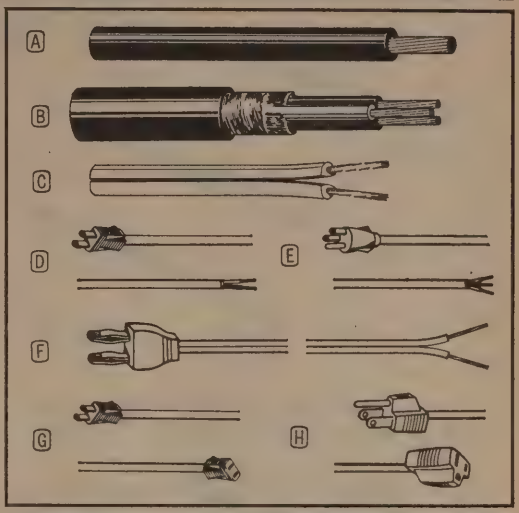
Columbia No.	No. of Cond.	AWG (Strand)	Nom. O.D. In.	Net Each, Spool of 100 ft.	Net Each, Spool of 250 ft.
C1415	2	18 (41/34)	.107 x .210	$4.40	$10.60

RUBBER TEST LEAD WIRE (FIG. A)

Extra flexible stranded tinned soft annealed copper conductor, color-coded rubber insulation. Working voltage: No. 1326, 1500V; 1319, 3000 V; 1321, 5000 V; 1318, 10,000 V rms AC.

Columbia No.	Insul. Thick.	Color*	AWG (Stranding)	Nom. O.D. In.	Net Each, Spool of 250 ft.	Net Each, Spool of 500 ft.
C1326	.040″	Black	20 (41/36)	.125	$12.00	$23.35
C1319	.047″	Black	20 (41/36)	.140	12.55	24.65
C1321	.045″	Black	18 (65/36)	.140	14.00	28.00
C1318	.088″	Black	18 (65/36)	.230	21.25	42.55

*Available in red or black; please specify.



FLEXLIFE® PVC TEST LEAD WIRE (FIG. A)

Extra flexible PVC insulated wire for multimeters, analyzers, oscillators, etc. Flexlife plastic insulation is durable and has high gloss finish. Resistant to acids, oil, alkalis, flame, moisture and fungus. Temp., −20° to +60° C. Working voltage: 5000 V rms AC. Breakdown voltage: 20,000 V. Extra flexible stranded tinned soft annealed copper conductor. Flexlife® plastic insulation. Specify black or red.

Columbia No.	No. of Cond.	AWG (Strand)	Nom. O.D. In.	Insul. Thick.	Net per Spool 250′	Net per Spool 500′
C1320	1	18 (65/36)	.140	.045″	$14.10	$27.55

POWER SUPPLY AND REPLACEMENT CORDS

Molded plastic male cap on one end. Other end has outer jacket removed, conductors stripped; all cords machine hanked. UL Listed. Rated for 125 VAC. For portable tools, appliances, etc.

TWO-CONDUCTOR (FIG. D)

Columbia No.	AWG Size	Type	Lgth. Ft.	Rating, Amps	Color	Net per 100
20252	18	SV	9	10	Black	$146.20
20254	18	SV	12	10	Black	166.70
20327	18	SVT	6	10	Black	97.05
24516	18	SJ	6	10	Black	92.02
20258	18	SJ	10	10	Black	150.75
24546	18	SJT	6	10	Gray	91.88
24549	18	SJT	9	10	Gray	110.49
20260	16	SJ	8	13	Black	153.75
20262	16	SJ	10	13	Black	175.00*

THREE-CONDUCTOR (FIG. E)

20330	18	SVT	6	10	Gray	$126.85
20331	18	SVT	8	10	Gray	141.80
20264	18	SJ	6	10	Black	153.75
20314	18	SJ	8	10	Black	170.00*
24936	18	SJT	6	10	Gray	132.85
24939	18	SJT	9	10	Gray	160.00*
24926	16	SJ	6	13	Black	153.50
20324	16	SJ	8	13	Black	200.00*
24929	16	SJ	9	13	Black	225.00*
24932	16	SJ	12	13	Black	275.00*
24946	16	SJT	6	13	Gray	153.50
24949	16	SJT	9	13	Gray	216.00*

TWO-CONDUCTOR SMALL APPLIANCE CORDS (FIG. F)

24586	18	SPT-1	6	10	Brown	$70.15
24596	18	SPT-1	6	10	White	70.15
24589	18	SPT-1	9	10	Brown	80.60
24599	18	SPT-1	9	10	White	80.60

EXTENSION CORDS (FIG. G)

Molded plastic cap and connector. UL Listed. For portable tools, appliances, business machines, etc. Rated at 125 VAC.

TWO-CONDUCTOR (FIG. G)

Columbia No.	AWG Size	Type	Lgth. Ft.	Rating, Amps	Color	Net per 100
20272	18	SV	6	10	Black	$143.50
26010	18	SJ	10	10	Black	225.00*
26025	18	SJ	25	10	Black	375.00*
23026	18	SJT	25	10	Black	369.00*
26110	16	SJ	10	13	Black	200.00*

THREE-CONDUCTOR (FIG. H)

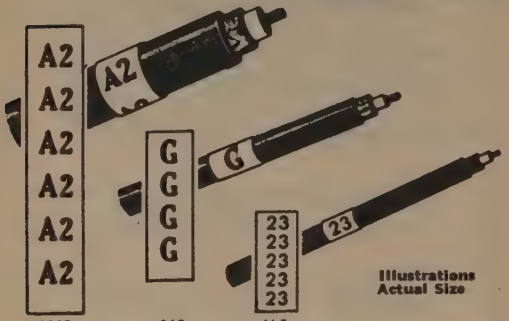
20288	18	SJ	10	10	Black	$245.00*
26525	18	SJ	25	10	Black	539.00*
20294	16	SJ	15	13	Black	465.00*
26625	16	SJ	25	13	Black	561.00*

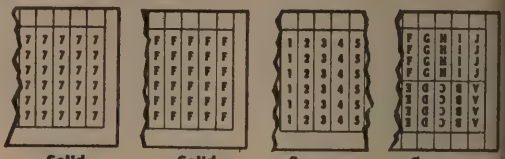
*Available in any quantity.

T&B / Thomas & Betts

E-Z-Code® WIRE MARKERS

SELF-ADHERING WIRE MARKERS
IDENTIFY WIRES AND CABLES OF ANY SIZE





Identification applied around-the-wire without ever touching the adhesive side of marker. With E-Z-Codes, you grab the tab—not the adhesive. Simply pull the E-Z-Tab to release each marker as you need it. The adhesive of each marker is protected, never contaminated by touching during application. Unused markers are always protected by an E-Z-Tab. Available in popular Vari-Temp and many other materials. Hundreds of stock codes, symbols and NEMA colors. For complete information on stock or special-made markers, ask for the E-Z-Code Wire Markers Catalog.

VARI-TEMP CLOTH TAPE WIRE MARKERS (WBC)

Vari-Temp tape is a popular, all-purpose material. Meets MIL-E-5272B for fungus resistance. Has high tack, adhesion and tensile strength. Outstanding performance, −300° F to +350° F. Printing is protected by clear, permanent overcoating.

POPULAR STOCK SIZES

Table below is for ¾" size (½2" to ¼" O.D. wire); for 1½" size (¼" up O.D. wire), replace D with S in cat. no. and divide number of markers per card by two.

Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card	Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WCZEROD**	72	0–10	**WC0–10D**	66
1	**WC1D**	72	1–18	**WC1–18D**	72
etc. thru	**etc. thru**		1–33	**WC1–33D**	66
99	**WC99D**	72	34–66	**WC34–66D**	66
100	**WC100D**	52	67–99	**WC67–99D**	66
101	**WC101D**	52	100–124	**WC100–124D**	50
etc. thru	**etc. thru**		etc. thru		
600	**WC600D**	52	1975–1999	**WC1975–1999D**	50
Solid Letters			**Letters in Sequence**		
A	**WCAD**	72	A–Z, A–J	**WCAZAJD**	72
etc. thru	**etc. thru**		A–Z, 0–9	**WCAZ09D**	72
Z	**WCZD**	72	a thru z	**WCLAZD**	52

(WBC) VARI-TEMP CLOTH PRICES, 1½" AND ¾"

Net per 100 Cards, Lots of		
Less than 1 Box	1–4	4-Over
$74.30	$52.20	$48.10

VARI-TEMP CLOTH MINI-MARKERS (MINIATURE WBC)

Designed specifically for small wires and cables. Stocked in ½" long markers for wires under 5⁄32" O.D.

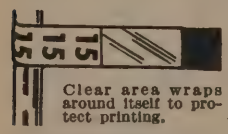
POPULAR STOCK ITEMS

Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card	Printing On Markers	T&B WBC Vari-Temp Cloth Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WCZEROMIN**	150	0–49	**WC0–49MIN**	150
1	**WC1MIN**	150	50–99	**WC50–99MIN**	150
etc. thru	**etc. thru**		100–132	**WC100–132MIN**	99
99	**WC99MIN**	150	133–165	**WC133–165MIN**	99
100	**WC100MIN**	102	etc. thru	**etc. thru**	
101	**WC101MIN**	102	430–462	**WC430–462MIN**	99
etc. thru	**etc. thru**		463–495	**WC463–495MIN**	99
250	**WC250MIN**	102	**Letters in Sequence**		
Solid Letters			Alphabet	**WCA–ZMIN**	156
A	**WCAMIN**	150	Repeated		
etc. thru	**etc. thru**		Six		
Z	**WCZMIN**	150	Times		

½" VARI-TEMP CLOTH MINI-MARKER PRICES

Net per 100 Cards, Lots of		
Less than 1 Box	1–4	4-Over
$97.60	$71.20	$65.40

SELF-LAMINATING VINYL PLASTIC WIRE MARKERS (WSL)



Clear area wraps around itself to protect printing.

One-piece vinyl construction of transparent and opaque background. Printing permanently protected by wrap-around lamination during application. Has excellent comformability and resists oils, solvents and abrasion; waterproof and fungus resistant. Temperature range, −70° F to +250° F. Meets MIL-M-22106 and Fed. Spec. PPP-T-66d. Available in a variety of printed and blank "write-on" marker types.

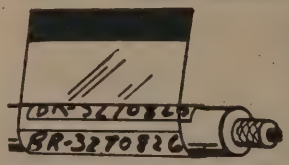
PRINTED MARKERS WITH TRANSPARENT EXTENSION



Printing On Markers	T&B WSL Cat. No.	No. per Card	Printing On Markers	T&B WSL Cat. No.	No. per Card
Solid Numbers			**Numbers in Sequence**		
0	**WSZEROS***	36	1–9	**WS1–9S**	36
1	**WS1S***	36	0–49	**WS0–49D**	100
etc. thru	**etc. thru**		50–99	**WS50–99D**	100
99	**WS99S***	36	1–33	**WS1–33S**	33
100	**WS100S†**	26	34–66	**WS34–66S**	33
101	**WS101S**	26	67–99	**WS67–99S**	33
etc. thru	**etc. thru**		100–124	**WS100–124S**	25
600	**WS600S**	26	125–149	**WS125–149S**	25
Capital Letters			etc. thru	**etc. thru**	
A	**WSAS***	36	975–999	**WS975–999S**	25
etc. thru	**etc. thru**		**Letters & Nos. in Sequence**		
Z	**WSZS***	36	A–Z, 1–9	**WSAZ09S†**	36

*¾" size also available 100/card or †72/card, as indicated, change final suffix S (1½" lg. size for wires 5⁄32" to ¼" O.D.) to **D** (¾" lg. size for wires below 5⁄32" O.D.).

BLANK "WRITE-ON" MARKERS



Where requirements call for a few of many different, special legends, T&B's handy "write-on" blank markers provide on-the-spot marking. Write your legend on the white background; apply the marker. Clear laminated extension protects your written code.

T&B number indicates marker width; when ordering specify **112S**, 1½" lg. size for wires 5⁄32" to ¼" O.D. or **34D**, ¾" lg. size for wires below 5⁄32" O.D.

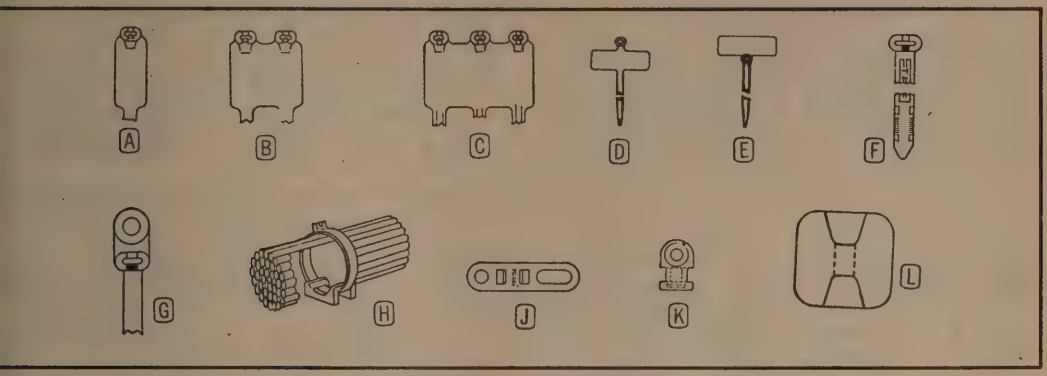
Mkr. Width	T&B WSL Cat. No.	No./Card ¾"	No./Card 1½"	Mkr. Width	T&B WSL Cat. No.	No./Card ¾"	No./Card 1½"
1⁄4"	**WSBW18x34D**	144	....	½"	**WSBW12x***	36	18
9/50"	**WSBW950x34D**	100	....	¾"	**WSBW34x***	24	12
¼"	**WSBW14x***	72	36	1"	**WSBW1x***	18	9
9/26"	**WSBW926x***	52	26	1½"	**WSBW112x***	12	6

*Add suffix **34D** for ¾" size, **112S** for 1½" size.

(WSL) SELF-LAMINATING VINYL PRICES

Net per 100 Cards, Lots of		
Less than 1 Box	1–4	4-Over
$78.10	$58.60	$54.00

THOUSANDS OF STOCK MARKERS FOR IMMEDIATE DELIVERY. WRITE FOR E-Z-Code CATALOG.



TY-RAP® IDENTIFICATION TIES

Cable ties with unobstructed rectangular area for marking.

T. & B. No.	Fig.	Dia. Range, In.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TY-546M	A	⅛–1¾	100	500	$24.16	$18.88	$15.10
TY-546MX*	A	⅛–1¾	100	500	26.72	20.88	16.70
TY-546MD	B	⅛–1¾	100	500	55.84	43.63	34.90
TY-546MT	C	⅛–1¾	100	500	90.88	71.00	56.80
TY-548M	A	¼–4	100	500	31.04	24.25	19.40
TY-551M	D	3/16– ⅝	100	500	12.00	9.38	7.50
TY-553M	E	1/16– ⅝	100	500	12.00	9.38	7.50
TY-5512M	.....	3/16–2	100	500	14.08	11.00	8.80
TY-5532M	.....	1/16–2	100	500	14.08	11.00	8.80

*For outdoor use.

TY-RAP MARKING PENS

Choice of black or red marking pens for use on Ty-Rap identification ties.

T. & B. No. WT163M-1—Color ink, black. Net Each.... **$2.50**

T. & B. No. WT163M-3—Color ink, red. Net Each..... **2.50**

TY-RAP® INSTALLATION TOOLS

For quick installation of cable ties as indicated.

T. & B. No.	Fig.	For use with TY-RAP cable tie No. TY-	Net Each
WT-199	M	527M, 529M, 537M, 5272M	*
WT-197	M	527M, 529M, 537M, 5272M and X outdoor ties	*
WT-193	.....	523M, 524M, 525M, 526M, 528M, 5232M, 5242M, 5243M, 5244M, 533M, 534M, 535M, 546M, 551M, 553M, 554M, 5222M, 5253M, 538M, 548M and X outdoor ties	*

*Price on application.

SELF-ADJUSTING WIRE STRIPPERS

T. & B. No. ABMK-1—Hand wire stripper strips from #30 to #12 AWG wire without adjustments; no need to aim, as there is no stripping hole to locate. Strips insulation from one wire or in multiples, stranded or solid, aluminum or copper.
Net Each..... **$45.00**

T. & B. No. ABMK-3—Similar to ABMK-1, but covers wire sizes #18 to #10 AWG. Net Each..... **$59.00**

TY-RAP ADHESIVE MOUNTING BASE

Pressure sensitive adhesive mounting base for use with Ty-Rap cable ties .190" maximum width.

T. & B. No.	Fig.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TC-5342A	L	100	500	$42.08	$32.88	$26.30

FOR OTHER THOMAS & BETTS PRODUCTS NOT LISTED, WRITE FOR CATALOG.

TY-RAP® CABLE TIES

Fig. **F.** Self-locking nylon cable ties.

T. & B. No.	Dia. Range, In.	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TY-523M	1/16– ⅝	100	1000	$ 5.76	$ 4.50	$ 3.60
TY-523MX*	1/16– ⅝	100	500	6.72	5.25	4.20
TY-52315M	1/16–1½	100	500	5.92	4.63	3.70
TY-52315MX*	1/16–1½	100	500	6.72	5.25	4.20
TY-5232M	1/16–2	100	500	6.56	5.13	4.10
TY-5232MX*	1/16–2	100	500	7.20	5.63	4.50
TY-5234M	1/16–4	100	500	11.04	8.63	6.90
TY-5234MX*	1/16–4	100	500	12.48	9.75	7.80
TY-524M	1/16–1¼	100	1000	6.56	5.13	4.10
TY-524MX*	1/16–1¼	100	500	7.04	5.50	4.40
TY-5242M	1/16–2	100	500	7.84	6.13	4.90
TY-5242MX*	1/16–2	100	500	8.48	6.63	5.30
TY-526M	1/16–3	100	500	13.44	10.50	8.40
TY-526MX*	1/16–2	100	500	14.88	11.63	9.30
TY-5244M	1/16–4	100	500	17.28	13.50	10.80
TY-5244MX*	1/16–4	100	500	19.68	15.38	12.30
TY-525M	1/16–1¾	100	1000	8.16	6.38	5.10
TY-525MX*	1/16–1¾	100	500	9.12	7.13	5.70
TY-5253M	1/16–3	100	500	16.32	12.75	10.20
TY-5253MX*	1/16–3	100	500	18.72	14.63	11.70
TY-528M	1/16–4	100	500	19.04	14.88	11.90
TY-528MX*	1/16–4	100	500	20.64	16.13	12.90
TY-5272M	1/16–2	50	500	19.68	15.38	12.30
TY-5272MX*	1/16–2	50	500	21.44	16.75	13.40
TY-527M	3/16–3½	50	500	26.88	21.00	16.80
TY-527MX*	3/16–3½	50	500	28.16	22.00	17.60
TY-529M	3/16–9	50	500	56.16	43.88	35.10
TY-529MX*	3/16–9	50	500	61.76	48.25	38.60

Fig. **G.** Self-locking nylon cable straps with mounting hole.

TY-533M	1/16– ⅝	100	500	$ 9.76	$ 7.63	$ 6.10
TY-533MX*	1/16– ⅝	100	500	12.48	9.75	7.80
TY-534M	1/16–1¼	100	500	11.20	8.75	7.00
TY-534MX*	1/16–1¼	100	500	12.64	9.88	7.90
TY-535M	1/16–1¾	100	500	12.64	9.88	7.90
TY-535MX*	1/16–1¾	100	500	14.24	11.13	8.90
TY-5354M	1/16–4	100	500	30.88	24.13	19.30
TY-5354MX*	1/16–4	100	500	35.52	27.75	22.20
TY-537M	3/16–3½	50	500	39.84	31.13	24.90
TY-537MX*	3/16–3½	50	500	43.84	34.25	27.40
TY-554M	1/16–1¼	100	500	11.52	9.00	7.20
TY-538M	1/16–1¾	100	500	13.44	10.50	8.40
TY-538MX*	1/16–1¾	100	500	14.72	11.50	9.20

*For outdoor use.

TY-RAP MOUNTING BASES FOR CABLE TIES

Nylon bases accommodate a variety of strap widths. Models TC-501 and TC-502 bases are used with T. & B. cable ties TY-523M, TY-524M, TY-525M, TY-526M, TY-528M, and TY-546M. TC-503 base is used with cable tie TY-527M. TC-504 base is used with TY-523M cable tie.

T. & B. No.	Fig.	Mounting Hole Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of Below Unit Qty.	Unit Qty.	Std. Pkg.
TC-501	J	2-#10 screws	100	500	$10.88	$ 8.50	$ 6.80
TC-502	J	2-#¼" screws	100	500	10.08	7.88	6.30
TC-503	K	1-#8 screw	100	500	44.00	34.38	27.50
TC-504	K	1-#5 screw	100	500	7.36	5.75	4.60

TY-RAP MOUNTING BASE FOR LASHING TIE

Weather resistant nylon mounting base for use with T. & B. lashing tie No. TY-5409. Width, .500".

TC-5355	H	#8 screw	25	250	$51.20	$40.00	$32.00
TC-5356	H	#10 screw	25	250	51.20	40.00	32.00
TC-5357	H	#¼" screw	25	250	51.20	40.00	32.00

waldom Speedy-Tys® Cable Ties

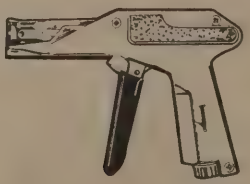
STANDARD SELF-LOCKING TIES

Compact, one-piece design. Rugged nylon construction; no metal parts. Designed to exceed MIL-S-23190. Self-locking head; will not loosen when pulled tight. Easy application by tool or hand. Installation tool automatically cuts off excess tie for low-profile configuration with no protruding edges. Releasable locating tip. Double-bend tip locates around wires; guides operator's hand for easy 90° insertion, even in confined areas. Second bend prevents snagging. Tip can be inserted in head and later released. Makes for easier positioning of ties on wire bundle. Wide bundle-gripping serrations hug wires tightly; won't pierce wire insulation as string or narrower ties often do. All-environment nylon (MIL-M-20693). Tough, resistant to temperature extremes, diluted acids, solvents, grease, alkalies and fungus growth. Speedy-Tys can be color coded as per Military Specification; information on request. Available in a variety of sizes.

SELF-LOCKING TIES WITH MOUNTING CLAMPS

Same as standard self-locking ties, except with mounting clamp. All one-piece construction. Quickly attaches to panel or chassis with screw, rivet or bolt.

Waldom Part No.	Hole Dia./ Screw Size	Type	Size (Ins.) Length	Size (Ins.) Width	Bundle Diameter (Ins.)	Meets Military Standards	Minimum Loop Tensile Strength (MIL-S-23190) (Lbs.)	Use Cable Tying Tool Catalog Number	Net per 100
65001	.....	Miniature	3.7	0.085	1/16-3/4	MSS-3367-4	18	65098	$ 3.30
65002	.....	Miniature	4.0	0.100	1/16-5/8	MS-3367-4	18	65098	4.60
65003	.....	Intermediate	5.3	0.145	1/16-1 1/4	MS-3367-5	30	65098	5.50
65004	.....	Standard	6.9	0.187	1/16-1 3/4	MS-3367-1	50	65098, 65099	6.10
65005	.....	Intermediate	10.8	0.145	1/16-3	.....	30	65098	14.80
65006	.....	Large	13.0	0.300	1/16-3 1/2	MS-3367-3	120	65099	26.10
65007	.....	Standard	13.9	0.187	1/16-4	MS-3367-2	50	65098, 65099	16.80
65055	.198"/±10	Standard	14.4	0.187	1/16-4	.....	50	65098, 65099	28.10
65054	.260"/1/4"	Large	13.6	0.300	3/16-3 1/2	.....	120	65099	28.10
65053	.173"/±8	Intermediate	11.3	0.145	1/16-3	.....	30	65098	21.60
65052	.198"/±10	Standard	7.4	0.187	1/16-1 3/4	.....	50	65098, 65099	10.40
65051	.173"/±8	Intermediate	5.8	0.145	1/16-1 1/4	.....	30	65098	8.80
65050	.120"/±4	Miniature	4.4	0.100	1/16-5/8	.....	18	65098	7.00



TENSION-CONTROLLED APPLICATION TOOL

Tension-controlled tool tightens tie around wire bundle, then cuts tie flush; leaves no projections. Tool retains scrap until trigger is released. Rugged, die-cast aluminum provides long service life. Tension is easy to adjust. Detent locking action holds at each setting; can be locked for quality control. Easy-to-read tension gauge immediately identifies proper setting. Easy three-step installation. 1—Place tie around wire bundle. 2—Insert tie tip through head and pull tight around wire bundle. 3—Lock in place with tension-controlled tool.

Waldom No. 65098 Application Tool—Net Each **$59.95**
Waldom No. 65099 Application Tool—Net Each **59.95**

.300" CHARACTER HEIGHT



- High Brightness
- Low Power Requirements
- Standard 14-Pin DIP
- Single Plane Wide Angle Visibility
- Compatible with TTL & DTL Circuits

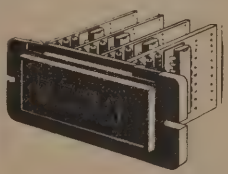
olid-state LED readout. Compatible with most TTL and DTL rcuits. Typical static forward voltage, 1.7 V.

ype No.	Description	Net Each, Lots of 1-9	10-99	100-249
5-0017	Numeric display	$2.89	$1.73	$1.42
5-0018	+/− Display	2.89	1.73	1.42

CONNECTOR FOR ABOVE DISPLAYS

Type No.	Net Each, Lots of 1-9	10-24	25-99	100-249
01-0701-009	$2.10	$1.86	$1.55	$1.32

COMPLETE ASSEMBLIES



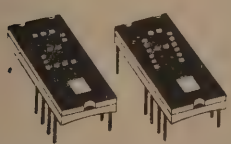
isplays with decoder driver re supplied with stylish black ezel for simplified panel ounting of multidigit groupngs. Displays feature a bright, ighly legible character in a 7egment format. .300" high haracter. User has the option f hard wiring to the board r using edge card connector.

Type No.	No. of Characters	Net Each
749-1501-001	1	$19.36
749-1502-001	2	32.88
749-1503-001	3	46.39
749-1504-001	4	59.90
749-1505-001	5	73.43
749-1506-001	6	86.94
749-1507-001	7	100.46
749-1508-001	8	113.97
749-1509-001	9	127.49

CARD EDGE CONNECTORS

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99	100-249
01-0700-005	Solder pins	$4.40	$4.14	$3.62	$3.30
01-0700-009	PC or wire wrap	4.40	4.14	3.62	3.30

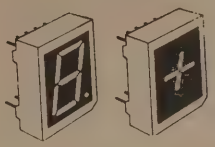
NUMERIC DISPLAY—.270"



olid-state visible displays with integral TTL MSI circuit chip ith latch, decoder and driver. .270" high character. Left-hand ecimal point. Supply voltage V_{CC}, continuous 5.5 V.

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99	100-249
45-0008	BCD display	$13.57	$10.52	$10.52	$9.82
45-0009	Pulse count display	13.57	10.52	10.52	9.82
01-0702-009	Connector	2.40	2.07	1.74	1.47

.600" CHARACTER HEIGHT



- GaP Red LED
- Large .600" Character
- Common Anode Construction
- Seven-Segment Format with Decimal Point
- Low Power Requirement, 10 mA per Segment

Solid-state LED readout. Low power requirement, typically 10 mA per segment. Typical static forward voltage, 2 V.

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99	100-249
730-6001	Numeric display	$6.07	$4.63	$4.41	$3.80
730-6005	+/− Display	7.28	5.63	5.29	4.58

COMPLETE ASSEMBLIES

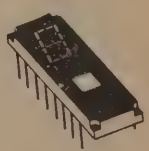
Displays with decoder driver are supplied with stylish black bezel for simplified panel mounting of multidigit groupings. Displays feature a bright, highly legible character in a large 7-segment format. .600" high character. User has the option of hard wiring to the board or using edge card connectors.



Type No.	No. of Characters	Net Each
739-0260-601	2	$46.64
739-0360-601	3	67.03
739-0460-601	4	87.42
739-0560-601	5	107.83
739-0660-601	6	128.22
739-0760-601	7	148.62
739-0860-601	8	169.01
739-0960-601	9	189.41

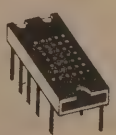
HEXADECIMAL DISPLAY—.270"

Solid-state. Integral TTL MSI circuit chip with latch, decoder and driver to accept, store and display 4-bit binary data. .270" high character. Left and right hand decimals. Operates from 5 volt or 6 volt supply.



Type No.	Description	Net Each, Lots of 1-9	10-24	25-99	100-249
745-0007	Display	$13.57	$10.52	$10.52	$9.82
501-0701-009	Connector	2.10	1.86	1.55	1.32

5 X 7 DOT MATRIX ALPHANUMERIC DISPLAY



Solid state. 0.300" high character. 5 × 7 array with X-Y select and decimal. Compatible with USASCII and EBCDIC codes. Left-hand decimal point. Typical static forward voltage, 1.6 V.

Type No.	Description	Net Each, Lots of 1-9	10-24	25-99	100-249
745-0005	Dot matrix	$6.93	$6.36	$6.36	$5.20
501-0701-009	Connector	2.10	1.86	1.55	1.32

ECI Metal Oxide Varistors

Varistors are voltage-dependent, non-linear resistors which have symmetrical, sharp breakdown characteristics similar to back-to-back Zener diodes. They are designed for suppressing transients in electrical circuits resulting from the sudden release of previously stored energy and from extraneous sources beyond the control of the circuit designer, such as lightning surges.



FEATURES

- No derating under multiple pulsing conditions at 85°C
- Epoxy coating for maximum protection from heat, humidity, shock, and vibration
- Fully UL recognized (UL-E71096)
- Rapid turn-on time of 35 nsecs with minimal capacitance for superior performance
- Tight clamping and fail-safe characteristics for maximum protection of voltage sensitive components

TYPE NR RADIAL LEAD

ECI Number	Steady State Max. V rms	Steady State Max. VDC	Max. Clamping Volts	Max. Clamping Amps
ECV-117NR2	75	95	205	10
ECV-117NR5	75	95	205	35
ECV-117NR6	75	95	205	50
ECV-117NR15	75	95	205	100
ECV-150NR2	95	125	250	10
ECV-150NR6	95	125	250	35
ECV-150NR8	95	125	250	50
ECV-150NR17	95	125	250	100
ECV-183NR2	115	150	305	10
ECV-183NR7	115	150	305	35
ECV-183NR9	115	150	305	50
ECV-183NR20	115	150	305	100
ECV-216NR3	135	180	350	10
ECV-216NR7	135	180	350	35
ECV-216NR10	135	180	350	50
ECV-216NR20	135	180	350	100
ECV-250NR3	160	210	410	10
ECV-250NR10	160	210	410	35
ECV-250NR12	160	210	410	50
ECV-250NR25	160	210	410	100
ECV-283NR3	180	220	465	10
ECV-283NR10	180	220	465	35
ECV-283NR12	180	220	465	50
ECV-283NR30	180	220	465	100
ECV-330NR4	210	265	550	10
ECV-330NR11	210	265	550	35
ECV-330NR13	210	265	550	50
ECV-330NR34	210	265	550	100
ECV-350NR4	220	285	585	10
ECV-350NR11	220	285	585	35
ECV-350NR13	220	285	585	50
ECV-350NR36	220	285	585	100
ECV-383NR5	240	320	630	10
ECV-383NR13	240	320	630	35
ECV-383NR15	240	320	630	50
ECV-383NR40	240	320	630	100
ECV-416NR5	260	330	685	10
ECV-416NR15	260	330	685	35
ECV-416NR20	260	330	685	50
ECV-416NR45	260	330	685	100
ECV-450NR5	280	370	740	10
ECV-450NR15	280	370	740	35
ECV-450NR20	280	370	740	50
ECV-450NR45	280	370	740	100
ECV-500NR6	315	400	820	10
ECV-500NR16	315	400	820	35
ECV-500NR22	315	400	820	50
ECV-500NR50	315	400	820	100
ECV-550NR6	350	445	905	10
ECV-550NR18	350	445	905	35
ECV-550NR24	350	445	905	50
ECV-550NR55	350	445	905	100
ECV-700NR70	440	550	1170	100
ECV-730NR70	460	600	1225	100
ECV-765NR70	480	630	1280	100
ECV-800NR80	500	660	1340	100
ECV-850NR80	540	690	1430	100
ECV-1000NR80	630	825	1680	100
ECV-1400NR100	1000	1150	2350	100

TYPE ZR RADIAL LEAD

ECI Number	Steady State Max. V rms	Steady State Max. VDC	Max. Clamping Volts	Max. Clamping Amps
ECV-18ZR1	10	12	42	5
ECV-18ZR3	10	12	42	10
ECV-22ZR1	13	16	47	5
ECV-22ZR3	13	16	47	10
ECV-24ZR1	15	18	50	5
ECV-24ZR4	15	18	50	10
ECV-27ZR1	17	21	50	5
ECV-27ZR4	17	21	50	10
ECV-33ZR1	21	26	62	5
ECV-33ZR5	21	26	62	10
ECV-39ZR2	25	31	73	5
ECV-39ZR6	25	31	73	10
ECV-47ZR2	30	38	88	5
ECV-47ZR7	30	38	88	10
ECV-56ZR2	35	45	97	5
ECV-56ZR8	35	45	97	10
ECV-68ZR2	43	55	127	5
ECV-68ZR10	43	55	127	10
ECV-82ZR2	52	66	153	5
ECV-82ZR12	52	66	153	10

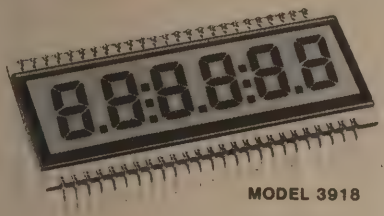
TYPE NA AXIAL LEAD

ECI Number	Steady State Max. V rms	Steady State Max. VDC	Max. Clamping Volts	Max. Clamping Amps
ECV-27NA1	17	21	50	1
ECV-33NA2	21	26	60	1
ECV-39NA2	25	31	73	1
ECV-47NA3	30	38	85	1
ECV-56NA3	35	45	103	1
ECV-68NA3	43	55	120	1
ECV-82NA5	52	66	145	1
ECV-100NA5	81	90	180	1
ECV-120NA2	76	97	200	1
ECV-150NA3	95	121	230	1
ECV-180NA3	114	145	285	1
ECV-220NA4	140	178	355	1
ECV-270NA4	171	218	435	1
ECV-330NA5	210	267	535	1
ECV-370NA5	235	299	600	1
ECV-390NA6	248	315	635	1
ECV-430NA7	273	348	695	1

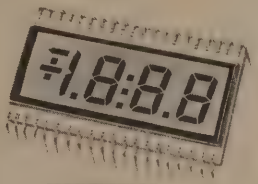
hese Hamlin LCD's come with DIL pins for ease in ounting. Also available are LCD's with snap on erminals or conductive elastomer connectors. igits are black with a transflective background. eflective models also available.

Other features available include wide temperature range (-10 to +90° C) -06 fluid, complete design and prototype service for custom displays and a high volume LCD production facility.

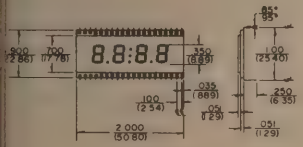
Ask for new LCD catalog.



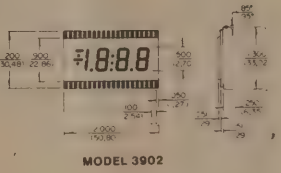
MODEL 3918



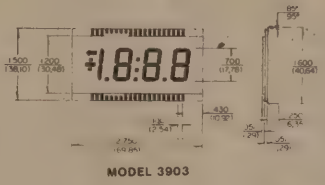
MODEL 3902



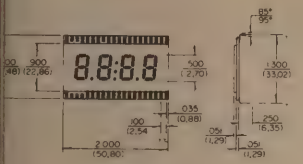
MODEL 3900



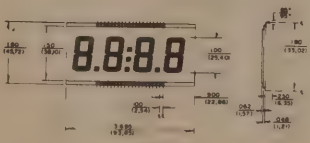
MODEL 3902



MODEL 3903



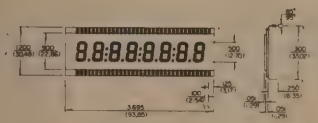
MODEL 3906



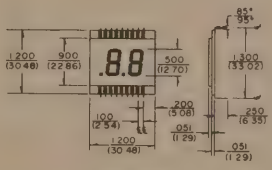
MODEL 3908



MODEL 3918



MODEL 3922



MODEL 3935

PERFORMANCE SPECIFICATIONS
(Typical 4 Digit (.5") Numeric LCD)

aracteristic less otherwise specified = + 25° C and test voltage is typical	Minimum	Typical	Maximum	Units
erating Voltage	3	5	9	V_{rms}
Drive component allowable			100	mV
erating frequency range*	30	60	100	Hz
rrent (all segments ON)			20	μA
pacitance (all segments ON)		3,000		pF
resistance (all segments ON)				MΩ
10% ON 25° C		1.3		V_{peak}
sual threshold 0° C		1.8		V_{peak}
90% ON 25° C		2.1		V_{peak}
90% ON 20° C		2.6		V_{peak}
sponse time				
Segment ON (T_A = + 25° C)		75	150	ms
Segment OFF (T_A = + 25° C)		150	300	ms
Segment ON (T_A = + 0° C)		300	600	rms
Segment OFF (T_A = + 0° C)		500	1,000	rms
ntrast ratio	-10		+55	°C
orage temperature range**	-55		+60	°C
pected life		50,000		hours

recommended; flicker may occur below 30 Hz, power consumption increases above 100 Hz.
40% maximum at 60° C relative humidity

GUIDE TO LCD's

TYPE	HAMLIN PART NUMBER
Instrument	3902, 3903
Numeric	3900, 3906, 3908, 3918, 3922, 3935

No. of Digits	Height	Hamlin Part Number	Display Length	Display Height	List Price
4	.35"	3900-315	2"	.9"	$15
3 1/2	.5"	3902-315	2"	1.2"	$16
3 1/2	.7"	3903-315	2.75"	1.5"	$22
4	.5"	3906-315	2"	1.2"	$16
4	.5"	3908-315	3.695"	1.8"	$32
6	.5"	3918-315	2.75"	1.2"	$19
8	.5"	3922-315	3.695"	1.2"	$24
2	.5"	3935-315	1.2"	1.2"	$14

INTERNATIONAL RECTIFIER
Semiconductors

BI-POLAR POWER TRANSISTORS

I-R No.	Pkg.	Power Watts	Ic Amps	VCEO Volts	Min. hFE	Ic @Amps	Net Each, Lots 1-99	Net Each, Lots 100-999
NPN POLARITY								
IR701	TO-3	50	1.0	600	20	0.15	$5.22	$4.18
2N5838	TO-3	100	3.0	250	8	3.0	1.96	1.45
2N5839	TO-3	100	3.0	275	10	2.0	2.16	1.60
2N5840	TO-3	100	3.0	350	10	2.0	2.43	1.80
IR709	TO-3	50	3.0	600	2.5	2.0	6.01	4.48
IR708	TO-3	50	3.0	600	4	1.0	5.43	4.33
IR710	TO-3	50	3.0	600	7	1.0	6.08	4.53
IR410	TO-3	100	5.0	200	30	1.0	2.50	1.85
2N5804	TO-3	110	5.0	225	10	5.0	4.40	3.10
IR401	TO-3	100	5.0	300	20	0.5	2.77	2.07
2N6542	TO-3	100	5.0	300	7	3.0	2.43	1.80
2N5805	TO-3	110	5.0	300	10	5.0	5.76	4.06
IR413	TO-3	100	5.0	325	20	0.5	2.55	1.87
IR6542	TO-3	100	5.0	350	7	3.0	2.43	1.80
2N6543	TO-3	100	5.0	400	7	3.0	2.97	2.20
IR6543	TO-3	100	5.0	400	7	3.0	2.70	2.10
IR430	TO-3	125	7.0	300	15	2.5	3.87	2.86
IR411	TO-3	100	7.0	300	30	1.0	2.75	2.05
IR403	TO-3	125	7.0	325	4.4	3.5	4.43	3.30
IR402	TO-3	125	7.0	325	5	3.0	4.16	3.09
IR409	TO-3	125	7.0	325	15	1.0	2.97	2.21
IR431	TO-3	125	7.0	325	15	2.5	4.07	3.01
IR423	TO-3	125	7.0	325	30	1.0	4.15	3.06
IR424	TO-3	125	7.0	350	30	1.0	4.34	3.23
IR425	TO-3	125	7.0	400	30	1.0	4.83	3.57
2N6306	TO-3	125	8.0	250	4	8.0	2.90	2.11
2N6307	TO-3	125	8.0	300	4	8.0	3.50	2.54
IR13006	TO-220	80	8.0	300	8	2.0	2.41	1.76
IR13006	TO-220	80	8.0	300	8	2.0	2.79	2.07
2N6544	TO-3	125	8.0	300	7	5.0	4.32	3.20
IR6544	TO-3	125	8.0	350	7	5.0	4.79	3.55
2N6308	TO-3	125	8.0	350	4	8.0	4.85	3.53
2N6545	TO-3	125	8.0	400	7	5.0	5.20	3.85
IR6545	TO-3	125	8.0	400	7	5.0	5.97	4.24
IR13007	TO-220	80	8.0	400	8	2.0	3.51	2.60
2N6249	TO-3	175	10.0	200	10	10.0	4.98	3.75
IR515	TO-3	125	10.0	250	5	7.0	3.41	2.54
IR516	TO-3	125	10.0	250	7	7.0	3.93	2.93
IR517	TO-3	125	10.0	250	10	7.0	4.59	3.41
2N6573	TO-3	125	10.0	250	5	10.0	4.96	3.69
BUY69C	TO-3	125	10.0	250	15	0.5	4.98	3.78
2N6574	TO-3	125	10.0	275	5	10.0	5.63	4.19
IR518	TO-3	125	10.0	275	10	7.0	5.24	3.90
2N6250	TO-3	175	10.0	275	8.0	10.0	5.90	4.38
2N6575	TO-3	125	10.0	300	5	10.0	16.20	12.00
IR519	TO-3	125	10.0	300	10	7.0	5.85	4.35
BUY69B	TO-3	125	10.0	325	15	2.5	5.70	4.20
2N6251	TO-3	175	10.0	350	6	10.0	5.99	4.65
IR6582	TO-3	125	10.0	350	7	7.0	7.36	5.20
IR6583	TO-3	125	10.0	400	7	7.0	7.80	5.53
2N6546	TO-3	175	15.0	300	6	10.0	6.95	5.15
IR6546	TO-3	175	15.0	350	6	10.0	8.07	6.02
2N6547	TO-3	175	15.0	400	6	10.0	8.51	6.30
IR6547	TO-3	175	15.0	400	6	10.0	10.60	7.90
2N6338	TO-3	200	25.0	100	12	25.0	5.06	3.75
2N6339	TO-3	200	25.0	120	12	25.0	6.08	4.50
2N6340	TO-3	200	25.0	140	12	25.0	11.48	8.50
2N6341	TO-3	200	25.0	150	12	25.0	13.16	9.75
PNP POLARITY								
2N6029	TO-3	200	16.0	100	25	8.0	$4.73	$3.50
2N6030	TO-3	200	16.0	120	20	8.0	5.00	3.70
2N6031	TO-3	200	16.0	140	15	8.0	5.70	4.25
2N5883	TO-3	200	25.0	60	4	25.0	3.31	2.45
2N5884	TO-3	200	25.0	80	4	25.0	4.05	3.00
2N5683	TO-3*	300	50.0	60	5	50.0	13.50	10.00
2N5684	TO-3*	300	50.0	80	5	50.0	15.75	11.67

*Modified.

POWER DARLINGTON TRANSISTORS

I-R No.	Pkg.	Power Watts	Ic Amps	VCEO Volts	Min. hFE	Ic @Amps	Net Each, Lots 1-99	Net Each, Lots 100-999
IR6251	TO-3	100	10	350	10	10	$4.96	$3.68
IR6251	TO-3	100	10	350	100	5	6.64	4.94
IR5252	TO-3	100	10	400	10	10	5.63	4.18
IR6252	TO-3	100	10	400	100	5	7.07	5.26
IR5253	TO-3	100	10	450	10	10	7.98	5.94
IR6253	TO-3	100	10	450	100	5	9.93	7.39
IR4039	TO-3	100	15	300	5	15	5.33	3.96
IR4041	TO-3	100	15	300	8	15	6.22	4.63
IR5000	TO-3	125	15	300	15	15	6.05	4.50
IR6000	TO-3	125	15	300	50	10	7.56	5.63
IR7000	TO-61#	125	15	300	60	10	46.20	33.04
IR4040	TO-3	125	15	325	8	15	7.19	5.35
IR4045	TO-3	125	15	325	15	15	7.88	5.86
IR4059	TO-3	125	15	350	5	15	6.64	4.94
IR4061	TO-3	100	15	350	8	15	7.02	5.23
IR4050	TO-3	125	15	350	8	15	7.56	5.63
IR5001	TO-3	125	15	350	15	15	6.27	4.66
IR4055	TO-3	125	15	350	15	15	7.88	5.86
IR6001	TO-3	125	15	350	50	10	7.98	5.94
IR7001	TO-61#	125	15	350	50	10	49.50	35.40
IR4060	TO-3	125	15	400	8	15	7.56	5.63
IR4065	TO-3	125	15	400	15	15	8.52	6.34
IR5002	TO-3	125	15	400	15	15	6.80	5.06
IR6002	TO-3	125	15	400	50	10	9.91	7.38
IR7002	TO-61#	125	15	400	50	10	52.80	37.76
IR6060	TO-3	125	20	300	30	15	7.98	5.94
IR5060	TO-3	125	20	300	20	15	5.80	4.31
IR6061	TO-3	125	20	350	30	15	8.40	6.25
IR5061	TO-3	125	20	350	20	15	6.05	4.50
IR6062	TO-3	125	20	400	30	15	10.33	7.69
IR5062	TO-3	125	20	400	20	15	7.22	5.38

#Isolated.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR

UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY,

JUST USE THE MANUFACTURER'S MODEL NUMBERS.

INTERNATIONAL RECTIFIER
Semiconductors

HEXFET™ POWER MOSFET TRANSISTORS IN TO-3 PACKAGE

I-R No.	VDS Volts	Ic Amps	RDS(ON) Ohms	gfs	Power Watts	Net Each, Lots 1-24	Net Each, Lots 25-99
N CHANNEL							
IRF450	500	10.0	0.4	10.0	150	$99.00	$81.18
IRF452	500	8.0	0.5	10.0	150	94.00	77.08
IRF430	500	3.5	1.5	2.5	75	26.30	21.57
IRF432	500	3.0	2.0	2.5	75	24.20	19.84
IRF420	500	2.0	3.0	1.75	40	17.60	14.43
IRF422	500	1.5	4.0	1.75	40	16.43	13.47
IRF451	450	10.0	0.4	10.0	150	85.00	69.70
IRF453	450	8.0	0.5	10.0	150	82.00	67.24
IRF431	450	3.5	1.5	2.5	75	16.00	13.12
IRF433	450	3.0	2.0	2.5	75	14.80	12.14
IRF421	450	2.0	3.0	1.75	40	10.68	8.76
IRF423	450	1.5	4.0	1.75	40	9.78	8.02
IRF350	400	11.0	0.3	9.0	150	80.80	66.26
IRF352	400	10.0	0.4	9.0	150	76.00	62.32
IRF330	400	4.0	1.0	3.5	75	17.20	14.10
IRF332	400	3.5	1.5	3.5	75	14.60	11.97
IRF320	400	2.0	1.8	2.0	40	11.50	9.43
IRF322	400	2.5	2.5	2.0	40	9.90	8.12
IRF710	400	1.2	3.6	1.0	20	6.24	5.12
IRF712	400	0.9	5.0	1.0	20	5.50	4.51
IRF351	350	11.0	0.3	9.0	150	71.30	58.47
IRF353	350	10.0	0.4	9.0	150	66.50	54.53
IRF331	350	4.0	1.0	3.5	75	13.80	11.32
IRF333	350	3.5	1.5	3.5	75	12.90	10.58
IRF321	350	3.0	1.8	2.0	40	9.20	7.54
IRF323	350	2.5	2.5	2.0	40	8.50	6.97
IRF711	350	1.2	3.6	1.0	20	5.01	4.11
IRF713	350	0.9	5.0	1.0	20	4.62	3.79
IRF250	200	20.0	0.09	12.0	150	76.50	62.36
IRF252	200	17.0	0.12	12.0	150	71.25	58.43
IRF230	200	7.0	0.4	4.5	75	16.50	13.53
IRF232	200	6.0	0.6	4.5	75	14.00	11.48
IRF220	200	4.0	0.8	2.3	40	11.20	9.18
IRF222	200	3.5	1.2	2.3	40	9.70	7.95
IRF610	200	2.0	1.5	1.2	20	6.11	5.01
IRF612	200	1.5	2.4	1.2	20	5.27	4.32
IRF251	150	20.0	0.09	12.0	150	68.40	56.09
IRF253	150	17.0	0.12	12.0	150	64.15	52.60
IRF231	150	7.0	0.4	4.5	75	13.20	10.82
IRF233	150	6.0	0.6	4.5	75	13.00	10.66
IRF221	150	4.0	0.8	2.3	40	9.00	7.38
IRF223	150	3.5	1.2	2.3	40	8.30	6.81
IRF611	150	2.0	1.5	1.2	20	4.88	4.00
IRF613	150	1.5	2.4	1.2	20	4.49	3.68
IRF150	100	28.0	0.06	10.0	150	71.30	58.47
IRF152	100	24.0	0.08	10.0	150	66.50	54.53
IRF130	100	12.0	0.18	5.0	75	15.80	12.96
IRF132	100	10.0	0.25	5.0	75	15.20	12.46
IRF120	100	6.0	0.3	2.5	40	10.70	8.77
IRF122	100	5.0	0.4	2.5	40	10.10	8.28
IRF510	100	3.0	0.6	1.5	20	5.79	4.75
IRF511	100	2.5	0.8	1.5	20	5.40	4.43
IRF151	60	28.0	0.06	10.0	150	65.50	53.71
IRF153	60	24.0	0.8	10.0	150	61.80	50.68
IRF131	60	12.0	0.18	5.0	75	12.70	10.41
IRF133	60	10.0	0.25	5.0	75	12.50	10.25
IRF121	60	6.0	0.3	2.5	40	9.50	7.79
IRF123	60	5.0	0.4	2.5	40	8.90	7.30
IRF511	60	3.0	0.6	1.5	20	4.62	3.79
IRF513	60	2.5	0.8	1.5	20	4.29	3.52
P CHANNEL							
IRF9130	100	8.0	0.3	3.5	75	$18.42	$15.10
IRF9132	100	7.0	0.4	3.5	75	17.90	14.68
IRF9131	60	8.0	0.3	3.5	75	14.70	12.05
IRF9133	60	7.0	0.4	3.5	75	14.60	11.97

TO-220AB PACKAGE

I-R No.	VDS Volts	Ic Amps	RDS(ON) Ohms	gfs	Power Watts	Net Each, Lots 1-24	Net Each, Lots 25-99
N CHANNEL							
IRF830	500	3.0	1.5	2.5	75	$22.10	$18.12
IRF832	500	2.5	2.0	2.5	75	20.30	16.65
IRF820	500	1.5	3.0	1.75	40	14.69	12.05
IRF822	500	1.0	4.0	1.75	40	13.78	11.30
IRF831	450	3.0	1.5	2.5	75	13.40	10.99
IRF833	450	2.5	2.0	2.5	75	12.40	10.17
IRF821	450	1.5	3.0	1.75	40	8.93	7.32
IRF823	450	1.0	4.0	1.75	40	8.17	6.70
IRF730	400	3.5	1.0	3.5	75	14.30	11.73
IRF732	400	3.0	1.5	3.5	75	12.10	9.92
IRF720	400	2.5	1.8	2.0	40	9.60	7.87
IRF722	400	2.0	2.5	2.0	40	8.30	6.81
IRF731	350	3.5	1.0	3.5	75	11.40	9.35
IRF733	350	3.0	1.5	3.5	75	10.70	8.77
IRF721	350	2.5	1.8	2.0	40	7.70	6.31
IRF723	350	2.0	2.5	2.0	40	7.10	5.82
IRF630	200	6.0	0.4	4.5	75	13.80	11.32
IRF632	200	5.0	0.6	4.5	75	13.00	10.66
IRF620	200	3.5	0.8	2.3	40	9.40	7.71
IRF622	200	3.0	1.2	2.3	40	8.10	6.64
IRF631	150	6.0	0.4	4.5	75	11.00	9.02
IRF633	150	5.0	0.6	4.5	75	10.80	8.86
IRF621	150	3.5	0.8	2.3	40	7.50	6.15
IRF623	150	3.0	1.2	2.3	40	6.90	5.66
IRF530	100	10.0	0.18	5.0	75	13.30	10.92
IRF532	100	8.0	0.25	5.0	75	12.80	10.50
IRF520	100	5.0	0.3	2.5	40	8.90	7.30
IRF522	100	4.0	0.4	2.5	40	8.30	6.81
IRF531	60	10.0	0.18	5.0	75	10.50	8.61
IRF533	60	8.0	0.25	5.0	75	10.50	8.61
IRF521	60	5.0	0.3	2.5	40	7.10	5.82
IRF523	60	4.0	0.4	2.5	40	6.60	5.41
P CHANNEL							
IRF9530	100	7.0	0.3	3.5	75	$15.58	$12.78
IRF9532	100	6.0	0.4	3.5	75	15.00	12.30
IRF9520	100	4.0	0.6	1.8	40	10.00	8.20
IRF9522	100	3.5	0.8	1.8	40	9.60	7.87
IRF9531	60	7.0	0.3	3.5	75	12.40	10.17
IRF9533	60	6.0	0.4	3.5	75	12.20	10.00
IRF9521	60	4.0	0.6	1.8	40	8.00	6.56
IRF9523	60	3.5	0.8	1.8	40	7.90	6.48

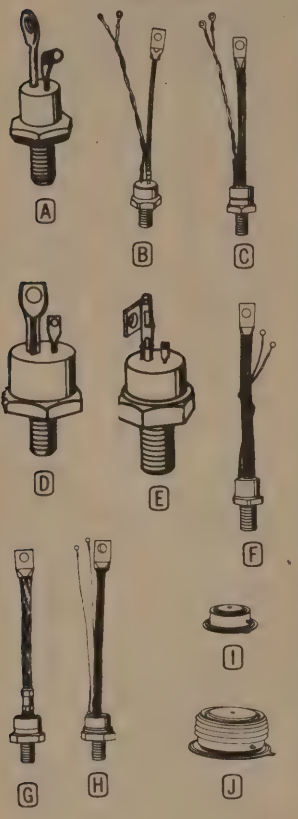
I-R No.	VDS Volts	Ic Amps	RDS(ON) Ohms	gfs	Power Watts	Net Each, Lots 1-24	Net Each, Lots 25-99
4-PIN DUAL-INLINE-PACKAGE							
N-CHANNEL							
IRFD110	100	1.0	0.6	1.2	1.0	$5.21	$4.27
IRFD112	100	0.8	0.8	1.2	1.0	4.86	3.99
IRFD111	60	1.0	0.6	1.2	1.0	4.16	3.41
IRFD113	60	0.8	0.8	1.2	1.0	3.86	3.17
P-CHANNEL							
IRFD9120	100	1.0	0.6	1.2	1.0	$9.00	$7.38
IRFD9122	100	0.8	0.8	1.2	1.0	8.64	7.08
IRFD9121	60	1.0	0.6	1.2	1.0	7.20	5.90
IRFD9123	60	0.8	0.8	1.2	1.0	7.11	5.83
16-PIN DUAL-INLINE-PACKAGE							
N-CHANNEL							
IRFE110	100	1.0	0.6	1.2	4.0	$21.88	$17.94
IRFE112	100	0.8	0.8	1.2	4.0	20.41	16.74
IRFE111	60	1.0	0.6	1.2	4.0	17.47	14.33
IRFE113	60	0.8	0.8	1.2	4.0	16.21	13.29
P-CHANNEL							
IRFE9120	100	1.0	0.6	1.2	4.0	$37.80	$31.00
IRFE9122	100	0.8	0.8	1.2	4.0	36.29	29.76
IRFE9121	60	1.0	0.6	1.2	4.0	30.24	24.80
IRFE9123	60	0.8	0.8	1.2	4.0	29.86	24.49
COMBINATION N- AND P-CHANNELS							
IRFE5110	100	1.0	0.6	1.2	4.0	$29.85	$24.47
IRFE5112	100	0.8	0.8	1.2	4.0	28.35	23.25
IRFE5111	60	1.0	0.6	1.2	4.0	23.86	19.57
IRFE5113	60	0.8	0.8	1.2	4.0	23.04	18.89

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T_C and I_{GT} values are maximum.

25 AMP rms STUD (FIG. A)
I_T = 16 A avg. at T_C = 65° C. I_{GT} = 40 mA at 25° C. dv/dt = 20 V/μs typical.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
2N681	25	$ 4.13	$ 3.10
2N682	50	4.13	3.10
2N683	100	4.13	3.10
2N685	200	5.51	4.04
2N687	300	6.30	4.92
2N688	400	7.33	5.78
2N689	500	7.77	6.10
2N690	600	8.20	6.49
2N691	700	9.03	7.17
2N692	800	11.47	9.09

35 AMP rms STUD (FIG. A)
I_T = 22 A avg. at 40° C. I_{GT} = 40 mA at 25° C. dv/dt = 100V/μs typical.

		1-99	100-999
2N5204	600	$ 9.75	$ 6.86
2N5205	800	14.79	7.84
2N5206	1000	19.35	10.29
2N5207	1200	26.79	13.13

35 AMP rms STUD (FIG. A)
I_T = 22.3 A avg. at 65° C. I_{GT} = 40 mA at 25° C. dv/dt = 100 V/μs typical.

16RIA10	100	$ 4.89	$ 3.48
16RIA20	200	6.56	4.75
16RIA40	400	8.56	6.20
16RIA60	600	10.10	7.27
16RIA80	800	11.51	8.21
16RIA100	1000	13.81	9.76
16RIA110	1100	14.88	10.49
16RIA120	1200	17.09	12.07

*JAN or JANTX type available.
+ Price available on request.

35 AMP rms STUD (FIG. A)
I_T = 22 A avg. at 85° C. I_{GT} = 40 mA at 25° C. dv/dt = 100 V/μs typical.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	Net Each, Lots of 100-999
22RIA10	100	$ 5.15	$ 3.66
22RIA20	200	6.91	5.00
22RIA40	400	9.01	6.53
22RIA60	600	10.60	7.65
22RIA80	800	12.10	8.60
22RIA100	1000	14.55	10.29
22RIA110	1100	15.65	11.05
22RIA120	1200	17.60	12.40

40 AMP rms STUD (FIG. A)
I_T = 25° A avg. at 85° C. I_{GT} = 40 mA at 25° C. dv/dt = 100V/μs typical.

25RIA10	100	$ 5.41	$ 3.84
25RIA20	200	7.26	5.25
25RIA40	400	9.46	6.86
25RIA60	600	11.16	8.03
25RIA80	800	12.73	9.07
25RIA100	1000	15.27	10.78
25RIA110	1100	16.44	11.59
25RIA120	1200	18.48	13.05

80 AMP rms STUD (FIG. D)
I_T = 50 A avg. at 94° C. I_{GT} = 100 mA at 25° C. dv/dt = 200 V/μs minimum.

50RIA10	100	$17.56	$10.55
50RIA20	200	18.09	10.87
50RIA40	400	20.27	12.18
50RIA60	600	22.57	15.57
50RIA80	800	25.92	21.00
50RIA100	1000	35.01	26.00
50RIA110	1100	43.99	31.87
50RIA120	1200	43.99	31.87

110 AMP rms STUD (FIG. B)
I_T = 70 A avg. at 62° C. I_{GT} = 70 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
71RC5A	50	$22.18	$13.32
71RC10A	100	24.47	14.70
71RC20A	200	29.73	17.79
71RC30A	300	35.21	19.61
71RC40A	400	40.71	24.41
71RC60A	600	50.97	32.16
71RC80A	800	61.52	38.82
71RC100A	1000	73.75	43.50
71RC110A	1100	79.94	46.69
71RC120A	1200	84.88	50.06

110 AMP rms STUD (FIG. B)
I_T = 70 A avg. at 62° C. I_{GT} = 70 mA at 25° C. dv/dt = 20 V/μs typical.

2N1909	25	$20.01	$12.01
2N1910*	50	22.19	13.33
2N1911*	100	24.47	14.70
2N1912	150	27.22	16.35
2N1913*	200	29.61	17.79
2N1914	250	32.70	19.61
2N1915*	300	35.21	21.16
2N1916*	400	40.71	24.41
2N1805*	500	47.92	28.82
2N1806*	600	53.46	32.27
2N1807	700	64.98	38.83

110 AMP rms STUD (FIG. C)
I_T = 70 A avg. at 62° C. I_{GT} = 110 mA at 25° C. dv/dt = 20 V/μs minimum.

2N3091*	600	$51.20	$30.72
2N3092	700	58.75	35.25
2N2093*	800	64.03	38.43
2N3094	900	70.39	42.26
2N3095*	1000	76.86	46.14
2N3096	1100	82.03	49.22
2N3097*	1200	88.50	53.10
2N3098	1300	96.05	57.62

110 AMP rms STUD (FIG. C)
I_T = 70 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

71RB50	500	$ 37.10	$ 23.36
71RB60	600	46.54	28.18
71RB80	800	58.99	35.39
71RB100	1000	71.22	42.33
71RB120	1200	71.07	48.72
71RB140	1400	100.62	59.18

110 AMP rms STUD (FIG. E)
I_T = 70 A avg. at 65° C. I_{GT} = 70 mA at 25° C. dv/dt = 20 V/μs typical.

2N1792*	50	$22.19	$13.33
2N1793*	100	24.47	14.70
2N1794	150	27.22	16.35
2N1795*	200	29.73	17.79

110 AMP rms STUD (FIG. E) (Cont'd)

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
2N1796	250	$32.70	$19.61
2N1797*	300	35.21	21.16
2N1798*	400	40.71	24.41
2N1799*	500	45.84	28.28
2N1800*	600	50.97	32.16
2N1801	700	68.61	43.29
2N1802	800	75.72	44.66
2N1803	900	80.55	47.05
2N1804	1000	85.22	50.26

110 AMP rms STUD (FIG. C)
I_T = 70 A avg. at 80° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

71RA30	300	$ 40.77	$26.67
71RA50	500	46.03	27.60
71RA60	600	51.20	30.72
71RA80	800	64.02	38.43
71RA100	1000	76.87	46.14
71RA120	1200	88.50	53.10
71RA140	1400	109.60	68.47

110 AMP rms STUD (FIG. B)
I_T = 70 A avg. at 85° C. I_{GT} = 70 mA at 25° C. dv/dt = 200 V/μs minimum.

71RC10B	100	$40.74	$24.48
71RC20B	200	44.19	26.22
71RC30B	300	38.96	23.35
71RC40B	400	50.02	30.02
71RC50B	500	69.84	41.86
71RC60B	600	87.30	52.33

110 AMP rms STUD (FIG. B)
I_T = 70 A avg. at 85° C. I_{GT} = 70 mA at 25° C. dv/dt = 20 V/μs typical.

2N2023	25	$28.21	$16.94
2N2024*	50	36.48	21.89
2N2026*	100	41.16	24.72
2N2026	150	44.65	26.79
2N2027*	200	44.65	26.79
2N2028	250	45.85	27.50
2N2029*	300	47.04	28.21
2N2030*	400	50.53	30.33

110 AMP rms STUD (FIG. C)
I_T = 70 A avg. at 105° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 v/μs minimum.

71REH60	600	$ 56.32	$33.79
71REH80	800	70.42	42.27
71REH100	1000	84.56	50.75
71REH110	1100	86.70	54.19
71REH120	1200	97.35	58.41
71REH130	1300	101.51	63.45

125 AMP rms STUD (FIG. C)
I_T = 80 A avg. at 85° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

81RLA60	600	$ 53.76	$32.26
81RLA80	800	67.22	40.35
81RLA100	1000	80.71	48.45
81RLA120	1200	92.93	55.76
81RLA140	1400	115.08	71.89
81RLA150	1500	*	*
81RLA160	1600	*	*

140 AMP rms STUD (FIG. B)
I_T = 90 A avg. at 85° C. I_{GT} = 100 mA at 25° C. dv/dt = 200 V/μs minimum.

91RC5	50	$24.21	$14.03
91RC10	100	25.27	14.96
91RC20	200	30.23	17.88
91RC30	300	35.40	20.96
91RC40	400	41.25	24.48
91RC60	600	50.11	29.59
91RC80	800	64.02	38.39
91RC100	1000	76.87	46.15
91RC110	1100	82.28	49.78
91RC120	1200	88.50	53.13

170 AMP rms STUD (FIG. C)
I_T = 110 A avg. at 80° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

		1-4	5-9
111RLA60	600	$ 80.96	$62.28
111RLA80	800	89.06	68.50
111RLA100	1000	97.15	74.73
111RLA110	1100	105.25	85.51
111RLA120	1200	113.34	87.19

235 AMP rms STUD (FIG. F)
I_T = 150 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
151RC10	100	$ 45.14	$27.07
151RC20	200	48.49	29.11
151RC30	300	53.09	31.88
151RC40	400	58.73	35.22
151RC60	600	74.51	44.73
151RC80	800	104.92	62.96

Listing continued on following page

INTERNATIONAL RECTIFIER
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SILICON CONTROLLED RECTIFIERS (Cont'd)

235 AMP rms STUD (FIG. G)
= 150 A avg. at 75° C. I_{GT} = 200 mA at 25° C.
dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	10-99
1RB60	600	$ 79.04	$ 47.47
1RB80	800	97.90	58.90
1RB100	1000	110.39	66.13
1RB120	1200	124.33	74.75
1RB140	1400	142.98	85.98
1RB150	1500	164.43	98.87
1RB160	1600	189.09	113.95

235 AMP rms STUD (FIG. G)
= 150 A avg. at 85° C. I_{GT} = 150 mA at 25° C.
dt = 200 V/μs minimum.

1RA30	300	$ 59.37	$ 37.11
1RA60	600	83.56	50.17
1RA80	800	101.79	61.05
1RA100	1000	119.93	72.16
1RA120	1200	135.14	81.54
1RA140	1400	156.37	94.02
1RA150	1500	182.87	108.13
1RA160	1600	206.80	124.35

275 AMP rms STUD (FIG. F)
= 175 A avg. at 88° C. I_{GT} = 150 mA at 25° C.
dt = 200 V/μs minimum.

5RC10	100	$52.91	$31.57
5RC20	200	56.87	43.21
5RC30	300	62.15	37.35
5RC40	400	68.75	41.08
5RC60	600	87.23	52.36
5RC80	800	92.60	55.58

275 AMP rms STUD (FIG. G)
= 175 A avg. at 90° C. I_{GT} = 150 mA at 25° C.
dt = 200 V/μs minimum.

5RA60	600	$107.55	$ 63.54
5RA80	800	123.30	74.98
5RA100	1000	148.07	88.19
5RA120	1200	171.61	103.62
5RA140	1400	209.06	125.33
5RA150	1500	221.74	132.44
5RA160	1600	233.41	140.56

275 AMP rms HOCKEY-PUK (FIG. H)
= 175 A avg. at 85° C. I_{GT} = 200 mA at 25° C.
dt = 200 V/μs minimum.

5PA60	600	$ 59.40	$ 37.13
5PA80	800	74.80	46.75
5PA100	1000	90.20	56.38
5PA120	1200	110.00	68.75
5PA140	1400	125.40	78.38
5PA150	1500	149.60	93.50
5PA160	1600	176.00	110.00

400 AMP rms HOCKEY-PUK (FIG. H)
= 250 A avg. at 65° C. I_{GT} = 150 mA at 25° C.
dt = 20 V/μs minimum.

0PAC10	100	$30.40	$20.90
0PAC20	200	32.00	22.00
0PAC30	300	36.00	24.75
0PAC40	400	41.60	28.60
0PAC50	500	49.20	33.83
0PAC60	600	56.80	36.85

400 AMP rms HOCKEY-PUK (FIG. H)
= 250 A avg. at 70° C. I_{GT} = 150 mA at 25° C.
dt = 200 V/μs minimum.

0PA60	600	$ 65.75	$39.45
0PA80	800	83.28	50.03
0PA100	1000	100.83	60.51
0PA120	1200	120.50	72.36
0PA140	1400	138.10	83.30
0PA150	1500	*	*
0PA160	1600	*	*

rices available on request.

400 AMP rms STUD (FIG. I)
= 250 A avg. at 75° C. I_{GT} = 150 mA at 25° C.
dt = 200 v/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	10-99
0RA10	100	$ 72.50	$ 43.50
0RA20	200	73.00	43.90
0RA30	300	80.00	48.00
0RA40	400	92.50	55.70
0RA60	600	131.12	78.50
0RA80	800	153.45	91.74
0RA100	1000	173.62	103.40
0RA120	1200	200.09	120.00
0RA140	1400	225.23	135.30
0RA150	1500	237.60	143.00
0RA160	1600	249.70	151.00
0RA170	1700	265.32	159.50
0RA180	1800	278.58	167.48
0RA190	1900	292.51	175.88
0RA200	2000	307.14	184.64

470 AMP rms STUD (FIG. I)
I_T = 300 A avg. at 75° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	10-99
300RB10	100	$ 67.27	$ 43.70
300RB20	200	77.62	48.51
300RB30	300	91.27	54.97
300RB40	400	104.13	63.60
300RB60	600	141.33	83.01
300RB80	800	167.63	100.36
300RB100	1000	193.07	116.42
300RB120	1200	224.22	135.83
300RB140	1400	245.98	148.96
300RB150	1500	260.68	156.80
300RB160	1600	275.38	164.64
300RB170	1700	295.47	176.89
300RB180	1800	315.56	189.14
300RB190	1900	339.24	203.34
300RB200	2000	364.70	218.59

470 AMP rms STUD (FIG. I)
I_T = 300 A avg. at 75° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

300RA10	100	$ 68.64	$ 44.59
300RA20	200	79.20	49.50
300RA30	300	93.13	56.10
300RA40	400	106.26	64.90
300RA60	600	144.21	84.70
300RA80	800	171.05	102.41
300RA100	1000	197.01	118.80
300RA120	1200	228.80	138.60
300RA130	1300	244.20	146.30
300RA140	1400	251.00	152.00
300RA150	1500	266.00	160.00
300RA160	1600	281.00	168.00
300RA170	1700	301.50	180.50
300RA180	1800	322.00	193.00

470 AMP rms HOCKEY-PUK (FIG. H)
I_T = 300 A avg. at 70° C. I_{GT} = 150 mA at 25° C.
dv/dt = 20 v/μs minimum.

300PAC10	100	$41.09	$24.70
300PAC20	200	43.56	26.40
300PAC30	300	48.62	29.21
300PAC40	400	56.38	33.83
300PAC50	500	66.72	40.04
300PAC60	600	76.84	46.15

470 AMP rms HOCKEY-PUK (FIG. H)
I_T = 300 A avg. at 77° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

300PA60	600	$ 76.88	$ 48.05
300PA80	800	111.94	69.96
300PA100	1000	134.32	83.95
300PA120	1200	147.38	92.11
300PA140	1400	167.09	104.43
300PA150	1500	*	*
300PA160	1600	*	*

510 AMP rms HOCKEY-PUK (FIG. H)
I_T = 325 A avg. at 74° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

325PAH50	500	$ 71.42	$44.53
325PAH60	600	82.26	51.41
325PAH80	800	119.78	74.86
325PAH100	1000	143.72	89.83
325PAH110	1100	150.71	94.20
325PAH120	1200	157.70	98.56

550 AMP rms STUD (FIG. I)
I_T = 350 A avg. at 75° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

350RC10	100	$ 90.29	$56.43
350RC20	200	96.62	60.39
350RC30	300	102.96	64.35
350RC40	400	112.46	70.29
350RC60	600	142.46	85.55

550 AMP rms STUD (FIG. I)
I_T = 350 A avg. at 75° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

350RA10	100	$ 86.00	$ 51.25
350RA20	200	86.00	51.50
350RA30	300	105.00	63.50
350RA40	400	120.25	72.30
350RA60	600	156.80	93.94
350RA80	800	183.70	109.95
350RA100	1000	210.21	126.61
350RA120	1200	267.82	153.48
350RA140	1400	291.50	174.90
350RA150	1500	298.70	178.80
350RA160	1600	305.90	182.70
350RA170	1700	327.85	195.85
350RA180	1800	349.80	209.00

660 AMP rms HOCKEY-PUK (FIG. J)
I_T = 420 A avg. at 68° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

420PB30	300	$ 79.55	$ 50.39
420PB50	500	83.77	53.14
420PB60	600	91.44	55.03

660 AMP rms HOCKEY-PUK (FIG. J) (Cont'd)

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	10-99
420PB80	800	$114.82	$ 68.40
420PB100	1000	134.81	81.04
420PB120	1200	153.53	92.07
420PB140	1400	170.47	102.59
420PB150	1500	181.25	111.40
420PB160	1600	188.74	118.44
420PB170	1700	198.94	124.84
420PB180	1800	209.69	131.59
420PB190	1900	221.02	138.70
420PB200	2000	232.96	146.19

740 AMP rms HOCKEY-PUK (FIG. J)
I_T = 470 A avg. at 67° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

470PB30	300	$ 83.74	$ 53.17
470PB50	500	88.18	55.95
470PB60	600	96.25	57.93
470PB80	800	120.86	72.01
470PB100	1000	141.90	85.29
470PB120	1200	161.61	96.92
470PB140	1400	179.44	108.00
470PB150	1500	190.80	117.25
470PB160	1600	198.67	124.67
470PB170	1700	209.39	131.40
470PB180	1800	220.69	138.49
470PB190	1900	232.60	145.96
470PB200	2000	245.15	153.84

865 AMP rms HOCKEY-PUK (FIG. J)
I_T = 550 A avg. at 65° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

540PB30	300	$85.95	$54.57
540PB50	500	90.50	57.42
540PB60	600	98.73	59.22

865 AMP rms HOCKEY-PUK (FIG. J)
I_T = 550 A avg. at 65° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

550PB30	300	$ 87.66	$ 55.66
550PB50	500	90.95	57.62
550PB60	600	101.33	60.80
550PB80	800	126.89	76.12
550PB100	1000	149.00	89.38
550PB120	1200	170.61	101.97
550PB140	1400	191.57	114.90
550PB150	1500	203.23	121.94
550PB160	1600	214.23	128.48
550PB170	1700	225.83	135.44
550PB180	1800	238.05	142.77

1260 AMP rms HOCKEY-PUK (FIG. J)
I_T = 800 A avg. at 74° C. I_{GT} = 150 mA at 25° C.
dv/dt = 200 V/μs minimum.

700PK50	500	*	*
700PK60	600	*	*
700PK80	800	*	*
700PK100	1000	*	*
700PK120	1200	*	*
700PK140	1400	$ 282.88	$176.90
700PK160	1600	320.95	200.60
700PK180	1800	387.13	241.96
700PK200	2000	453.41	272.21
700PK210	2100	497.91	298.37
700PK220	2200	556.05	333.57
700PK230	2300	609.71	364.92
700PK240	2400	681.42	403.95
700PK250	2500	818.24	476.75
700PK260	2600	908.26	529.20
700PK270	2700	1008.17	587.41
700PK280	2800	1119.07	652.03
700PK290	2900	1242.18	723.75
700PK300	3000	1378.83	803.37

1600 AMP rms HOCKEY-PUK (FIG. J)
I_T = 1000 A avg. at 76° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

850PK50	500	*	*
850PK60	600	*	*
850PK80	800	*	*
850PK100	1000	*	*
850PK120	1200	$299.27	$180.45
850PK140	1400	305.87	183.76
850PK150	1500	326.78	194.76
850PK160	1600	348.78	206.86
850PK180	1800	414.80	258.58
850PK200	2000	500.62	300.39
850PK210	2100	549.56	329.76
850PK220	2200	607.78	364.69
850PK230	2300	672.89	403.71
850PK240	2400	745.11	447.05

1900 AMP rms HOCKEY-PUK (FIG. J)
I_T = 1200 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

1200PN50	500	$390.83	$234.40
1200PN60	600	405.50	243.20
1200PN80	800	412.34	247.35
1200PN100	1000	464.16	278.39
1200PN120	1200	501.31	300.88
1200PN140	1400	537.49	322.39

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SILICON CONTROLLED RECTIFIERS (Cont'd)

1900 AMP rms HOCKEY-PUK (FIG. J) (Cont'd)
I_T = 1200 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
1200PN150	1500	$561.93	$337.06
1200PN160	1600	586.37	351.72
1200PN180	1800	635.26	381.05
1200PN200	2000	684.14	410.38
1200PN210	2100	713.47	427.49
1200PN220	2200	742.80	445.48
1200PN230	2300	802.93	468.07
1200PN240	2400	863.06	491.53
1200PN250	2500	886.04	518.42

1965 AMP rms HOCKEY-PUK (FIG. J)
I_T = 1250 A avg. at 76° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

1000PK50	500	$189.48	$118.42
1000PK60	600	192.39	126.50
1000PK80	800	218.02	137.12
1000PK100	1000	249.54	149.60
1000PK120	1200	286.42	171.83
1000PK140	1400	321.35	192.80
1000PK150	1500	342.27	205.36
1000PK160	1600	365.55	219.32
1000PK180	1800	419.13	251.50

2500 AMP rms HOCKEY-PUK (FIG. J)
I_T = 1600 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

1600PN50	500	$428.96	$257.37
1600PN60	600	445.58	267.40
1600PN80	800	477.85	286.70
1600PN100	1000	515.00	308.95
1600PN120	1200	532.60	319.46
1600PN140	1400	603.97	362.48
1600PN150	1500	629.39	377.63
1600PN160	1600	654.81	392.79

INVERTER TYPE SCR'S

125 AMP rms STUD (FIG. C)
I_T = 80 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
81RLB50	500	$ 47.41	$28.45
81RLB60	600	56.73	40.02
81RLB80	800	74.90	44.92
81RLB100	1000	94.00	56.38
81RLB110	1100	103.03	61.85
81RLB120	1200	112.57	67.58

125 AMP rms STUD (FIG. C)
I_T = 80 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

81RL10	100	$ 44.09	$26.95
81RL20	200	47.22	28.32
81RL30	300	51.71	31.02
81RL40	400	58.80	35.28
81RL50	500	61.94	37.17
81RL60	600	69.00	41.40
81RL80	800	83.46	50.09
81RL100	1000	109.84	65.46
81RL110	1100	119.14	71.51
81RL120	1200	126.76	76.06

125 AMP rms STUD (FIG. C)
I_T = 80 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

81RM10	100	$ 44.99	$27.50
81RM20	200	48.18	28.90
81RM30	300	52.77	31.65
81RM40	400	60.00	36.00
81RM50	500	63.20	37.93
81RM60	600	70.41	42.24
81RM80	800	85.16	51.11
81RM100	1000	112.08	66.80

150 AMP rms STUD (FIG. C)
I_T = 95 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

91RL10	100	$44.19	$27.02
91RL20	200	51.34	30.77
91RL30	300	59.72	35.84
91RL40	400	67.97	40.76
91RL50	500	71.42	42.83
91RL60	600	80.73	47.85

150 AMP rms STUD (FIG. C)
I_T = 95 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
91RM10	100	$45.09	$27.57
91RM20	200	52.39	31.40
91RM30	300	60.94	36.57
91RM40	400	69.36	41.59
91RM50	500	72.88	43.70
91RM60	600	82.38	48.83

245 AMP rms STUD (FIG. F)
I_T = 155 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

151RL50	500	$ 99.64	$ 59.77
151RL60	600	116.26	69.75
151RL80	800	133.65	79.95
151RL100	1000	151.61	90.83
151RL110	1100	169.92	101.49
151RL120	1200	189.88	113.11

245 AMP rms STUD (FIG. F)
I_T = 155 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

151RM10	100	$ 65.85	$39.53
151RM20	200	70.76	42.45
151RM30	300	77.94	48.75
151RM40	400	87.35	52.44
151RM50	500	102.31	61.39
151RM60	600	119.42	71.64
151RM80	800	137.08	81.99
151RM100	1000	155.50	93.16

285 AMP rms STUD (FIG. F)
I_T = 180 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

161RL10	100	$ 69.30	$41.64
161RL20	200	74.47	44.66
161RL30	300	82.06	49.23
161RL40	400	91.96	55.22
161RL50	500	107.69	64.63
161RL60	600	125.73	75.41

285 AMP rms STUD (FIG. F)
I_T = 180 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

161RM10	100	$ 83.11	$49.83
161RM20	200	89.49	53.68
161RM30	300	98.51	59.13
161RM40	400	110.39	66.22
161RM50	500	129.25	77.55
161RM60	600	150.92	90.53

400 AMP rms HOCKEY-PUK (FIG. H)
I_T = 255 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

240PAL50	500	$ 81.18	$48.71
240PAL60	600	94.01	56.63
240PAL80	800	111.67	66.80
240PAL100	1000	130.68	78.12
240PAL110	1100	141.37	84.00
240PAL120	1200	152.06	89.94

400 AMP rms HOCKEY-PUK (FIG. H)
I_T = 255 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

240PAM10	100	$ 57.20	$34.10
240PAM20	200	61.49	37.40
240PAM30	300	66.50	39.60
240PAM40	400	75.96	45.54
240PAM50	500	90.20	54.12
240PAM60	600	104.45	62.81
240PAM80	800	127.27	76.96
240PAM100	1000	144.82	88.74

450 AMP rms STUD (FIG. I)
I_T = 285 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

250RL60	600	$189.09	$113.85
250RL80	800	241.56	145.52
250RL100	1000	294.03	177.21
250RL110	1100	321.75	191.07
250RL120	1200	341.55	204.93

450 AMP rms STUD (FIG. I)
I_T = 285 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

250RM60	600	$210.10	$126.50
250RM80	800	268.40	162.14
250RM100	1000	304.70	196.90
250RM110	1100	357.50	212.30
250RM120	1200	379.50	227.70

460 AMP rms HOCKEY-PUK (FIG. H)
I_T = 295 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-9	Net Each, Lots of 10-99
250PAL10	100	$ 60.35	$36.19
250PAL20	200	65.40	39.25
250PAL30	300	70.44	42.25
250PAL40	400	80.43	48.27
250PAL50	500	95.57	57.34
250PAL60	600	110.61	66.36

460 AMP rms HOCKEY-PUK (FIG. H)
I_T = 295 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

250PAM10	100	$ 67.06	$40.21
250PAM20	200	72.66	43.60
250PAM30	300	78.27	46.95
250PAM40	400	89.36	53.64
250PAM50	500	106.18	63.71
250PAM60	600	122.89	73.73

660 AMP rms HOCKEY-PUK (FIG. J)
I_T = 420 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

420PBL50	500	$146.72	$ 88.02
420PBL60	600	172.03	100.57
420PBL80	800	214.20	128.50
420PBL100	1000	260.77	156.48
420PBL110	1100	284.05	170.43
420PBL120	1200	302.70	181.64

660 AMP rms HOCKEY-PUK (FIG. J)
I_T = 420 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

420PBM50	500	$163.02	$ 97.79
420PBM60	600	186.29	111.76
420PBM80	800	237.49	142.51
420PBM100	1000	288.70	173.25
420PBM110	1100	314.55	188.60
420PBM120	1200	337.65	202.57

880 AMP rms HOCKEY-PUK (FIG. J)
I_T = 560 A avg. at 65° C. I_{GT} = 150 mA at 25° C. dv/dt = 500 V/μs minimum.

600PBQ120	1200	$298.00	$175.00
600PBQ130	1300	308.00	181.00
600PBQ140	1400	326.00	191.00
600PBQ150	1500	336.00	197.00
600PBQ160	1600	348.00	204.00
600PBQ170	1700	378.00	222.00
600PBQ180	1800	396.00	232.00

1000 AMP rms HOCKEY-PUK (FIG. J)
I_T = 635 A avg. at 56° C. I_{GT} = 150 mA at 25° C. dv/dt = 500 V/μs minimum.

650PBQ50	500	$207.13	$129.47
650PBQ60	600	225.94	141.24
650PBQ80	800	267.19	160.38
650PBQ100	1000	324.61	194.76
650PBQ110	1100	354.20	212.52
650PBQ120	1200	380.05	228.03

1100 AMP rms HOCKEY-PUK (FIG. J)
I_T = 700 A avg. at 70° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

700PKL150	1500	$546.23	$327.71
700PKL160	1600	571.10	342.66
700PKL170	1700	602.66	360.58
700PKL180	1800	638.81	383.31
700PKL190	1900	681.66	409.01
700PKL200	2000	790.02	474.01

1350 AMP rms HOCKEY-PUK (FIG. J)
I_T = 850 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

850PKL120	1200	$427.19	$256.13
850PKL130	1300	526.28	315.75
850PKL140	1400	544.93	326.96
850PKL150	1500	563.47	338.06
850PKL160	1600	577.34	353.48
850PKL170	1700	621.68	372.99
850PKL180	1800	658.98	395.41

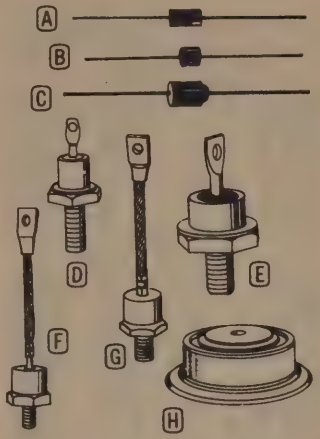
1600 AMP rms HOCKEY-PUK (FIG. J)
I_T = 1000 A avg. at 75° C. I_{GT} = 150 mA at 25° C. dv/dt = 200 V/μs minimum.

1000PKL50	500	$315.06	$189.62
1000PKL60	600	323.61	194.77
1000PKL80	800	333.23	199.96
1000PKL100	1000	405.02	243.09
1000PKL110	1100	441.65	264.99
1000PKL120	1200	474.32	284.59

INTERNATIONAL RECTIFIER
Silicon Rectifiers

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	Net Each, Lots of 100-999
0.75 AMP MOLDED (FIG. A)			
2069, A	200	$0.34	$0.26
2070, A	400	.37	.28
2071, A	600	.47	.35
1 AMP MOLDED (FIG. A)			
4001	50	$0.25	$0.19
4002	100	.26	.20
4003	200	.27	.22
4004	400	.30	.24
4005	600	.35	.31
4006	800	.44	.36
4007	1000	.55	.42
1.5 AMP MOLDED (FIG. B)			
D05	50	$0.30*	$0.24†
D1	100	.34*	.28†
D2	200	.36*	.29†
D4	400	.37*	.30†
D6	600	.40*	.32†
D8	800	.42*	.33†
D10	1000	.45*	.36†
1.5 AMP MOLDED (FIG. B)			
4816	50	$0.32*	$0.25†
4817	100	.35*	.27†
4818	200	.38*	.30†
4819	300	.40*	.32†
4820	400	.43*	.34†
4821	500	.45*	.36†
4822	600	.50*	.40†
5052	700	.74*	.60†
5053	800	.92*	.73†
5054	1000	1.22*	.97†
2 AMP MOLDED (FIG. B)			
D05	50	$0.34*	$0.28†
D1	100	.42*	.34†
D2	200	.45*	.36†
D4	400	.52*	.42†
D6	600	.60*	.48†
D8	800	.82*	.66†
D10	1000	.90*	.72†
3 AMP MOLDED (FIG. A)			
S1	100	$0.32	$0.25
S2	200	.35	.28
S3	300	.39	.32
S4	400	.43	.34
S6	600	.55	.45
S8	800	.88	.69
S10	1000	1.09	.85
4 AMP MOLDED (FIG. A)			
D1	100	$0.52*	$0.40†
D2	200	.55*	.43†
D4	400	.58*	.45†
D6	600	.62*	.48†
D8	800	.72*	.55†
6 AMP MOLDED (FIG. C)			
S05	50	$0.67#	$0.51§
S1	100	.71#	.55§
S2	200	.78#	.61§
S4	400	.86#	.67§
S5	500	1.14#	.85§
S6	600	1.41#	1.09§
S8	800	1.65#	1.28§
S10	1000	2.07#	1.60§
12 AMP STUD (FIG. D)			
F5	50	$1.20*	$1.15†
F10	100	1.31*	1.26†
F20	200	1.77*	1.59†
F40	400	1.86*	1.63†
F60	600	3.30*	2.75†
F80	800	5.30*	4.42†
F100	1000	7.00*	5.83†
12 AMP STUD (FIG. D)			
1199A, RA	50	$1.10*	$0.95†
1200A, RA	100	1.25*	1.08†
1201A, RA	150	1.50*	1.30†
1202A, RA	200	1.77*	1.59†
1203A, RA	300	1.82*	1.59†
1204A, RA	400	1.86*	1.63†
1205A, RA	500	2.80*	2.34†
1206A, RA	600	3.30*	2.75†
3670A, RA	700	7.00*	6.50†
3671A, RA	800	7.50*	7.10†
3672A, RA	900	8.40*	7.90†
3673A, RA	1000	8.80*	8.00†

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	Net Each, Lots of 100-999
12 AMP STUD (FIG. D)			
12F5B	50	$1.30*	$1.20†
12F10B	100	1.35*	1.28†
12F20B	200	1.86*	1.62†
12F40B	400	1.95*	1.71†
12F60B	600	3.46*	2.89†
12F80B	800	5.60*	4.83†
12F100B	1000	7.60*	6.33†
15 AMP STUD (FIG. E)			
1N3208, R	50	$2.23	$1.68
1N3209, R	100	2.77	2.05
1N3210, R	200	3.85	2.89
1N3211, R	300	4.77	3.57
1N3212, R	400	6.05	4.54
1N3213, R	500	6.60	4.95
1N3214, R	600	7.15	5.36
16 AMP STUD (FIG. D)			
16F5	50	$1.80*	$1.50†
16F10	100	2.00*	1.60†
16F20	200	2.80*	2.25†
16F40	400	4.60*	3.85†
16F60	600	6.40*	5.35†
16F80	800	7.80*	6.78†
16F100	1000	8.80*	7.55†
35 AMP STUD (FIG. E)			
1N1183, R	50	$2.22	$1.66
1N1184, R	100	2.22	1.66
1N1185, R	150	2.66	1.99
1N1186, R	200	3.10	2.32
1N1187, R	300	3.50	2.62
1N1188, R	400	4.22	3.16
1N1189, R	500	4.93	3.70
1N1190, R	600	5.57	4.17
1N3765, R	700	6.40	4.80
1N3766, R	800	7.23	5.42
1N3767, R	900	8.13	6.23
1N3768, R	1000	9.40	7.05
40 AMP STUD (FIG. E)			
40HF5	50	$2.22	$1.66
40HF10	100	2.22	1.66
40HF20	200	3.10	2.32
40HF30	300	3.50	2.62
40HF40	400	4.22	3.16
40HF50	500	4.93	3.70
40HF60	600	5.57	4.17
40HF80	800	7.23	5.42
40HF100	1000	9.40	7.05
40HF120	1200	12.22	9.16
40 AMP STUD (FIG. E)			
1N1183A, RA	50	$3.09	$2.31
1N1184A, RA	100	3.18	2.39
1N1185A, RA	150	3.43	2.57
1N1186A, RA	200	3.51	2.63
1N1187A, RA	300	4.29	3.21
1N1188A, RA	400	5.23	3.92
1N1189A, RA	500	5.87	4.40
1N1190A, RA	600	6.44	4.83
60 AMP STUD (FIG. E)			
1N2128, R	50	$2.46	$1.85
1N2129, R	100	2.46	1.85
1N2130, R	150	2.83	2.12
1N2131, R	200	3.45	2.69
1N2133, R	300	3.88	2.91
1N2135, R	400	4.68	3.51
1N2137, R	500	5.48	4.11
1N2138, R	600	6.18	4.64
60 AMP STUD (FIG. E)			
60HF10	100	$ 2.46	$1.85
60HF20	200	3.45	2.58
60HF30	300	3.88	2.91
60HF40	400	4.68	3.51
60HF50	500	5.48	4.11
60HF60	600	6.18	4.64
60HF80	800	7.95	5.96
60HF100	1000	10.33	7.75
60 AMP STUD (FIG. E)			
1N2128A, RA	50	$ 5.59	$3.97
1N2129A, RA	100	5.71	4.04
1N2130A, RA	150	5.98	4.23
1N2131A, RA	200	6.12	4.32
1N2133A, RA	300	7.42	5.24
1N2135A, RA	400	8.74	6.17
1N2137A, RA	500	9.87	6.97
1N2138A, RA	600	11.00	7.76
85 AMP STUD (FIG. E)			
70H5A	50	$ 5.59	$ 3.97
70H10A	100	5.71	4.04
70H20A	200	6.12	4.32
70H30A	300	7.42	5.24
70H40A	400	8.74	6.17
70H50A	500	9.87	6.97
70H60A	600	11.00	7.76
70H80A	800	14.16	10.00
70H100A	1000	17.50	12.35
70H120A	1200	21.93	15.47



JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	Net Each, Lots of 100-999
100 AMP STUD (FIG. F)			
1N3288, R	100	$16.40▲	$ 9.80■
1N3289, R	200	16.60▲	9.90■
1N3290, R	300	18.65▲	11.11■
1N3291, R	400	20.69▲	12.31■
1N3292, R	500	22.07▲	13.18■
1N3293, R	600	23.44▲	14.04■
1N3294, R	800	26.60▲	16.01■
1N3295, R	1000	30.78▲	18.47■
1N3296, R	1200	38.32▲	22.90■
100 AMP STUD (FIG. F)			
1N3288A, RA	100	$16.40▲	$ 9.80■
1N3289A, RA	200	16.60▲	9.90■
1N3290A, RA	300	18.65▲	11.11■
1N3291A, RA	400	20.69▲	12.31■
1N3292A, RA	500	22.07▲	13.18■
1N3293A, RA	600	23.44▲	14.04■
1N3294A, RA	800	26.60▲	16.01■
1N3295A, RA	1000	30.78▲	18.47■
1N3296A, RA	1200	38.32▲	22.90■
150 AMP STUD (FIG. G)			
1N3111, R	50	$17.96▲	$13.48■
1N3085, R	100	18.34▲	13.75■
1N3086, R	200	19.99▲	14.99■
1N3087, R	300	20.16▲	15.13■
1N3088, R	400	20.71▲	15.53■
1N3089, R	500	22.00▲	16.50■
1N3090, R	600	23.84▲	17.88■
1N3091, R	800	25.85▲	19.38■
1N3092, R	1000	27.96▲	20.97■
1N5162, R	1200	30.44▲	22.83■
150 AMP STUD (FIG. F)			
150K5A	50	$17.92▲	$10.72■
150K10A	100	18.30▲	10.94■
150K20A	200	18.68▲	11.17■
150K30A	300	21.29▲	12.74■
150K40A	400	23.90▲	14.31■
150K60A	600	27.62▲	16.62■
150K80A	800	31.70▲	18.93■
150K100A	1000	35.21▲	21.20■
150K120A	1200	38.30▲	23.40■
150 AMP STUD (FIG. G)			
150L5A	50	$18.22▲	$11.02■
150L10A	100	18.98▲	11.24■
150L20A	200	21.59▲	11.47■
150L30A	300	24.20▲	13.04■
150L40A	400	28.21▲	14.61■
150L60A	600	30.10▲	16.92■
150L80A	800	32.00▲	19.23■
150L100A	1000	35.51▲	21.50■
150L120A	1200	38.60▲	23.70■
250 AMP STUD (FIG. G)			
1N3735, R	100	$30.58▲	$18.37■
1N3736, R	200	32.27▲	19.43■
1N3737, R	300	32.80▲	19.72■
1N3738, R	400	33.32▲	20.00■
1N3739, R	500	36.90▲	21.74■
1N3740, R	600	38.84▲	23.48■
1N3741, R	800	44.63▲	26.63■
1N3742, R	1000	50.42▲	30.11■
1N3743, R	1200	56.21▲	33.58■

*Lots of 1-49. †Lots of 50-99. # Lots of 1-24. §Lots of 25-99. ▲ Lots of 1-9. ■ Lots of 10-99

Listing continued on following page

INTERNATIONAL RECTIFIER
Silicon Rectifiers

SILICON RECTIFIERS (Cont'd)

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
250 AMP STUD (FIG. G)			
1N2054, R	50	$29.81▲	$17.93■
1N2055, R	100	30.58▲	17.93■
1N2057, R	200	30.58▲	18.37■
1N2059, R	300	31.57▲	19.03■
1N2061, R	400	31.57▲	19.03■
1N2064, R	600	36.74▲	22.28■
1N2066, R	800	42.30▲	25.25■
1N2067, R	900	45.05▲	26.90■
1N2068, R	1000	47.85▲	28.55■
275 AMP STUD (FIG. G)			
1N4044, R	50	$29.43▲	$17.68■
1N4045, R	100	29.45▲	17.70■
1N4046, R	150	29.47▲	17.72■
1N4047, R	200	29.48▲	17.73■
1N4048, R	250	33.83▲	20.39■
1N4049, R	300	34.65▲	21.05■
1N4050, R	400	35.70▲	21.40■
1N4051, R	500	36.19▲	21.67■
1N4052, R	600	39.19▲	23.90■
1N4053, R	700	42.00▲	25.25■
1N4054, R	800	45.00▲	27.00■
1N4055, R	900	47.80▲	28.60■
1N4056, R	1000	50.55▲	30.25■
300 AMP STUD (FIG. G)			
300U5A	50	$22.83▲	$17.13■
300U10A	100	22.90▲	17.17■
300U20A	200	23.60▲	17.68■
300U30A	300	24.58▲	18.43■
300U40A	400	26.43▲	19.80■
300U60A	600	32.99▲	24.76■
300U80A	800	38.14▲	28.57■
300U100A	1000	41.83▲	31.40■
300U120A	1200	49.99▲	37.52■
300 AMP STUD (FIG. G)			
301U80	800	$ 77.73▲	$ 51.03■
301U100	1000	80.41▲	52.15■
301U120	1200	81.34▲	53.60■
301U140	1400	98.52▲	63.91■
301U160	1600	125.14▲	79.88■
301U180	1800	150.60▲	95.19■
301U200	2000	182.85▲	108.50■
301U210	2100	185.80▲	115.10■
301U220	2200	200.61▲	125.14■
301U230	2300	212.71▲	133.94■
301U240	2400	229.43▲	142.44■
301U250	2500	251.17▲	155.48■

* Price available on request.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
470 AMP HOCKEY-PUK (FIG. H)			
471PDA80	800	$ 49.06▲	$ 29.55■
47PDA100	1000	51.37▲	30.95■
471PDA120	1200	53.35▲	31.90■
471PDA140	1400	62.48▲	39.05■
471PDA160	1600	84.15▲	51.15■
471PDA180	1800	103.29▲	62.15■
471PDA200	2000	118.91▲	70.95■
471PDA210	2100	124.08▲	77.55■
471PDA220	2200	141.90▲	84.15■
471PDA230	2300	146.96▲	91.85■
471PDA240	2400	166.21▲	99.55■
471PDA250	2500	182.60▲	110.55■
500 AMP STUD (FIG. G)			
501V60	600	$ 90.75▲	$ 54.18■
501V80	800	95.98▲	56.93■
501V100	1000	103.40▲	64.63■
501V120	1200	116.60▲	72.88■
501V140	1400	132.44▲	82.78■
501V160	1600	147.40▲	92.13■
501V180	1800	169.40▲	105.88■
501V200	2000	158.37▲	118.78■
501V210	2100	*	*
501V220	2200	*	*
501V230	2300	*	*
501V240	2400	*	*
501V250	2500	*	*
500 AMP STUD (FIG. G)			
501V60B	600	$108.90▲	$65.01■
501V80B	800	115.17▲	68.31■
501V100B	1000	124.08▲	77.55■
501V120B	1200	139.92▲	87.45■
501V140B	1400	158.93▲	99.88■
800 AMP HOCKEY-PUK (FIG. H)			
801PDB120	1200	$ 99.00▲	$ 74.25■
801PDB140	1400	110.55▲	82.94■
801PDB160	1600	121.66▲	91.25■
801PDB180	1800	132.66▲	99.50■
801PDB200	2000	143.77▲	107.80■
801PDB210	2100	151.09▲	113.30■
801PDB220	2200	158.51▲	118.86■
801PDB230	2300	166.21▲	124.63■
801PDB240	2400	174.35▲	130.79■
801PDB250	2500	192.50▲	144.38■
800 AMP HOCKEY-PUK (FIG. H)			
801PDB60B	600	$ 84.34▲	$63.25■
801PDB80B	800	90.31▲	67.71■
801PDB100B	1000	102.14▲	76.62■
801PDB120B	1200	114.07▲	85.53■
801PDB140B	1400	122.87▲	92.13■

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
1100 AMP HOCKEY-PUK (FIG. H)			
1101PDK200	2000	$320.49▲	$192.50■
1101PDK220	2200	353.03▲	203.75■
1101PDK240	2400	365.29▲	217.50■
1101PDK260	2600	389.58▲	233.75■
1101PDK280	2800	423.82▲	255.00■
1101PDK300	3000	469.65▲	281.25■
1600 AMP HOCKEY-PUK (FIG. H)			
1601PDK120	1200	$264.49▲	$160.00■
1601PDK140	1400	282.65▲	170.00■
1601PDK160	1600	300.35▲	181.02■
1601PDK180	1800	322.58▲	193.75■
1601PDK200	2000	345.83▲	207.50■
1601PDK240	2400	382.00▲	238.75■
1601PDK250	2500	*	*
2000 AMP HOCKEY-PUK (FIG. H)			
2001PDK60	600	$225.73▲	$136.25■
2001PDK80	800	241.67▲	145.00■
2001PDK100	1000	266.51▲	160.62■
2001PDK120	1200	270.55▲	162.50■
2001PDK140	1400	332.41▲	200.00■
2001PDK160	1600	373.46▲	225.00■
2500 AMP HOCKEY-PUK (FIG. H)			
2501PDK20	200	$214.60▲	$134.13■
2501PDK30	300	218.90▲	136.81■
2501PDK40	400	223.40▲	139.62■
2501PDK80	600	228.00▲	142.50■
2600 AMP HOCKEY-PUK (FIG. H)			
2601PDN120	1200	$493.35▲	$308.34■
2601PDN140	1400	533.83▲	333.64■
2601PDN160	1600	586.96▲	366.85■
2601PDN180	1800	645.15▲	403.22■
2601PDN200	2000	708.40▲	442.75■
2601PDN240	2400	857.67▲	536.04■
2601PDN250	2500	925.98▲	578.74■
3000 AMP HOCKEY-PUK (FIG. H)			
3001PDN60	600	$442.75▲	$276.72■
3001PDN80	800	498.41▲	311.51■
3001PDN100	1000	554.07▲	346.29■
3001PDN120	1200	609.48▲	381.08■
3001PDN140	1400	665.39▲	415.87■

▲ Lots of 1-9. ■ Lots of 10-99

POWER SCHOTTKY RECTIFIERS

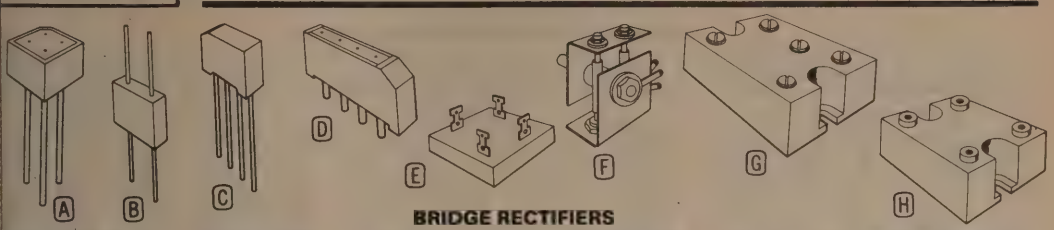
JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
1.1 AMP OUTPUT (FIG. A)			
11DQ03	30	$1.17	$0.82
11DQ04	40	1.90	1.33
11DQ05	50	2.54	1.78
11DQ06	60	3.09	2.16
8 AMP OUTPUT (FIG. C)			
80SQ030	30	$3.55	$2.48
80SQ035	35	3.91	2.73
80SQ040	40	4.28	2.98
80SQ045	45	4.64	3.24
10 AMP OUTPUT (FIG. I)			
10TQ030	30	$3.44	$2.43
10TQ035	35	4.29	3.03
10TQ040	40	5.10	3.61
10TQ045	45	6.00	4.24
12 AMP OUTPUT (FIG. J)			
12CTQ030*	30	$4.08	$2.84
12CTQ035*	35	5.08	3.54
12CTQ040*	40	6.04	4.22
12CTQ045*	45	7.10	4.95
20 AMP OUTPUT (FIG. J)			
20CTQ030*	30	$5.37	$3.75
20CTQ035*	35	6.37	4.45
20CTQ040*	40	7.64	5.33
20CTQ045*	45	8.74	6.10
27.5 AMP OUTPUT (FIG. D)			
1N6095	30	$5.10	$3.56
1N6096	40	5.73	4.00

*Dual center tap with common cathode.

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
30 AMP OUTPUT (FIG. I)			
30CTQ030*	30	$ 6.92	$4.83
30CTQ035*	35	8.01	5.59
30CTQ040*	40	9.46	6.60
30CTQ045*	45	10.92	7.62
30 AMP OUTPUT (FIG. D)			
21FQ030	30	$6.46	$4.50
21FQ035	35	6.83	4.76
SD41	35	7.55	5.27
21FQ040	40	7.19	5.02
21FQ045	45	7.55	5.27
30 AMP OUTPUT (FIG. D)			
20FQ020	20	$6.37	$4.45
20FQ030	30	6.73	4.70
20FQ035	35	7.10	4.95
20FQ040	40	7.46	5.21
20FQ045	45	7.83	5.46
30 AMP OUTPUT (FIG. D)			
30FQ030	30	$7.55	$5.27
30FQ035	35	7.74	5.40
30FQ040	40	8.28	5.78
30FQ045	45	8.65	6.03
30 AMP OUTPUT (FIG. D)			
30FQ030A	30	$8.10	$5.65
30FQ035A	35	8.46	5.90
30FQ040A	40	8.83	6.16
30FQ045A	45	9.19	6.41
55.5 AMP OUTPUT (FIG. E)			
1N6097	30	$6.73	$4.70
1N6098	40	8.19	5.72

JEDEC or I-R No.	PRV Volts	Net Each, Lots of 1-99	100-999
60 AMP OUTPUT (FIG. E)			
52HQ030	30	$6.37	$4.45
52HQ035	35	6.92	4.83
SD51	35	7.64	5.33
52HQ040	40	7.64	5.33
52HQ045	45	8.19	5.72
51HQ045	45	7.64	5.33
60 AMP OUTPUT (FIG. E)			
50HQ020	20	$6.10	$4.25
50HQ030	30	6.83	4.76
50HQ035	35	7.28	5.08
50HQ040	40	8.19	5.72
50HQ045	45	8.74	6.10
60 AMP OUTPUT (FIG. E)			
60HQ060	60	$ 8.92	$6.22
60HQ080	80	9.83	6.86
60HQ100	100	11.83	8.26
75 AMP OUTPUT (FIG. E)			
75HQ030	30	$7.19	$5.02
75HQ035	35	7.64	5.33
75HQ040	40	8.46	5.91
75HQ045	45	9.28	6.48
85 AMP OUTPUT (FIG. E)			
85HQ030	30	$7.75	$5.41
85HQ035	35	8.01	5.59
85HQ040	40	8.92	6.22
85HQ045	45	9.83	6.86

INTERNATIONAL RECTIFIER
Silicon Rectifiers



1.2 AMP OUTPUT (FIG. A)

I-R No.	PRV Volts	Net Each, Lots 1-49	50-99
KAB10	100	$0.58	$0.51
KAB20	200	.62	.54
KAB40	400	.65	.57
KAB60	600	.67	.59
KAB80	800	.88	.77
KAB100	1000	1.02	.89

1.8 AMP OUTPUT (FIG. B)

DB05A	50	$1.20	$1.04
DB1A	100	1.20	1.04
DB2A	200	1.20	1.04
DB3A	300	1.22	1.06
DB4A	400	1.25	1.09
DB5A	500	1.29	1.12
DB6A	600	1.33	1.16
DB7A	700	1.36	1.18
DB8A	800	1.40	1.22
DB10A	1000	1.43	1.24

1.9 AMP OUTPUT (FIG. C)

BB10	100	$0.65	$0.54
BB20	200	.66	.55
BB40	400	.67	.56
BB60	600	.71	.59
BB80	800	.89	.74
BB100	1000	1.01	.84

BRIDGE RECTIFIERS

10 AMP OUTPUT (FIG. E)

I-R No.	PRV Volts	Net Each, Lots 1-49	50-99
100JB05L	50	$2.90	$2.48
100JB1L	100	3.00	2.51
100JB2L	200	3.05	2.60
100JB4L	400	3.20	2.70
100JB6L	600	4.20	3.50
100JB8L	800	4.85	4.11
100JB10L	1000	6.06	5.14
100JB12L	1200	7.75	6.56

24 AMP OUTPUT (FIG. F)

B12F40	400	$39.16	$34.27
B12F60	600	45.36	39.68
B12F100	1000	67.04	58.66

25 AMP OUTPUT (FIG. E)

250JB05L	50	$2.90	$2.48
250JB1L	100	3.05	2.55
250JB2L	200	3.10	2.65
250JB4L	400	3.30	2.75
250JB6L	600	4.35	3.65
250JB8L	800	5.01	4.25
250JB10L	1000	6.27	5.31
250JB12L	1200	7.84	6.64

32 AMP OUTPUT (FIG. F)

B70H40	400	$54.87	$48.01
B70H60	600	65.46	57.27
B70H80	800	73.38	66.45
B70H100	1000	94.90	83.04

35 AMP OUTPUT (FIG. E)

I-R No.	PRV Volts	Net Each, Lots 1-49	50-99
35MB05A	50	$3.15	$2.70
35MB10A	100	3.30	2.80
35MB20A	200	3.35	2.85
35MB40A	400	3.45	2.95
35MB60A	600	4.70	4.00
35MB80A	800	5.68	4.80
35MB100A	1000	7.20	6.07
35MB120A	1200	8.80	7.44

60 AMP OUTPUT (FIG. G)

600HT1U	100	$49.80	$42.33
600HT2U	200	54.40	46.35
600HT3U	300	58.85	50.23
600HT4U	400	63.45	54.25
600HT6U	600	67.91	58.14
600HT8U	800	75.68	64.92
600HT10U	1000	84.24	72.40

80 AMP OUTPUT (FIG. G)

800HB1U	100	$47.84	$41.88
800HB2U	200	51.52	45.08
800HB3U	300	55.09	48.19
800HB4U	400	58.77	51.41
800HB6U	600	62.33	54.51

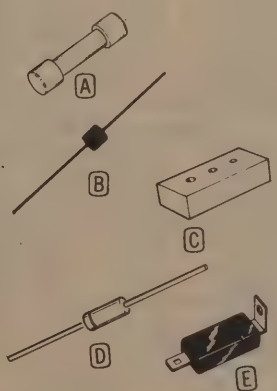
100 AMP OUTPUT (FIG. G)

1000HB1U	100	$45.02	$38.14
1000HB2U	200	49.25	41.84
1000HB3U	300	53.32	45.42
1000HB4U	400	57.59	49.12
1000HB6U	600	61.68	52.69

100 AMP OUTPUT (FIG. G)

1000HT1U	100	$61.76	$52.79
1000HT2U	200	67.28	57.62
1000HT3U	300	72.63	62.28
1000HT4U	400	78.15	67.11
1000HT6U	600	83.50	71.77

HIGH VOLTAGE RECTIFIERS



45 mAMP OUTPUT (FIG. A)

JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
1147	12K	$22.40	$21.96
1149	16K	29.58	25.58

80 mAMP OUTPUT (FIG. B)

		1-49	50-99
V30	3K	$1.02	$0.77
V60	6K	1.18	.88
V100	10K	1.61	1.21
V120	12K	1.90	1.60
V150	15K	2.10	1.70

250 mAMP OUTPUT (FIG. A)

		1-9	10-24
D015H55FNN	1500	$ 6.33	$ 5.49
D018H55FNN	1800	6.61	5.77
D024H55FNN	2400	6.83	5.94
D036H55FNN	3600	8.04	6.99
D048H55FNN	4800	8.65	7.52
D050H55FNN	5000	8.81	7.64
D075H55FNN	7500	12.97	11.24
D100H55FNN	10K	14.50	12.50
D120H55FNN	12K	15.49	13.46
D150H55FNN	15K	15.22	13.20
D200H55FNN	20K	21.30	18.49
D250H55FNN	25K	24.56	21.31
D300H55FNN	30K	31.08	26.98
D400H55FNN	40K	38.06	32.64
D500H55FNN	50K	44.14	36.08

250 mAMP OUTPUT (FIG. C)

D025D04TNN*	2500	$ 7.06	$ 6.14
D050D04TNN*	5000	12.17	10.57
D050H04TNN	5000	7.06	6.14
D075D04TNN*	7500	17.39	15.10
D075H04TNN	7500	9.68	8.40
D100D04TNN*	10K	25.87	22.47

oubler; all others half-wave.

250 mAMP OUTPUT (Cont'd) (FIG. C)

JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
67D100H04TNN	10K	$14.00	$12.16
67D120D04TNN*	12K	31.00	26.90
67D120H04TNN	12K	16.39	14.22
67D150D04TNN*	15K	33.26	28.86
67D150H04TNN	15K	17.39	15.10
67D200D04TNN*	20K	43.48	37.72
67D200H04TNN	20K	22.50	19.53
67D300H04TNN	30K	33.26	28.86
67D400H04TNN	40K	43.48	37.72

250 mAMP OUTPUT (FIG. D)

JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
67D005H53PNN	600	$ 2.63	$ 2.30
67D010H53PNN	1000	2.74	2.41
67D015H53PNN	1500	3.42	2.97
67D020H53PNN	2000	3.58	3.14
67D030H53PNN	3000	4.70	4.09
67D050H53PNN	5000	5.88	5.10
67D080H53PNN	8000	10.24	8.90
67D100H53PNN	10K	11.87	10.32
67D120H53PNN	12K	13.89	12.04
67D150H53PNN	15K	14.90	12.92
67D200H53PNN	20K	19.23	16.70
67D250H53PNN	25K	23.60	20.46
67D300H53PNN	30K	27.94	24.25

300 mAMP OUTPUT (FIG. D)

30AV60	6000	$1.79	$1.34
30AV80	8000	2.06	1.54
30AV100	10K	2.82	2.11

350 mAMP OUTPUT (FIG. C)

67D025D20TTS*	2500	$ 9.78	$ 8.50
67D050D20TTS*	5000	19.99	17.35
67D050H20TTS	5000	9.82	8.58
67D075D20TTS*	7500	29.90	25.95
67D075H20TTS	7500	16.96	14.83
67D100D20TTS*	10K	45.76	39.69
67D100H20TTS	10K	22.58	19.75
67D120D20TTS*	12K	55.00	47.72
67D120H20TTS	12K	27.08	23.70
67D150D20TTS*	15K	59.79	57.87
67D150H20TTS	15K	29.40	25.70
67D200D20TTS*	20K	80.44	67.80
67D200H20TTS	20K	39.41	34.37
67D250D20TTS*	25K	100.02	86.77
67D250H20TTS	25K	48.54	42.65
67D300D20TTS*	30K	119.58	103.75
67D300H20TTS	30K	58.89	51.45
67D400D20TTS*	40K	160.89	139.59

Listing continued on following page

INTERNATIONAL RECTIFIER
Silicon Rectifiers

HIGH VOLTAGE RECTIFIERS (Cont'd)

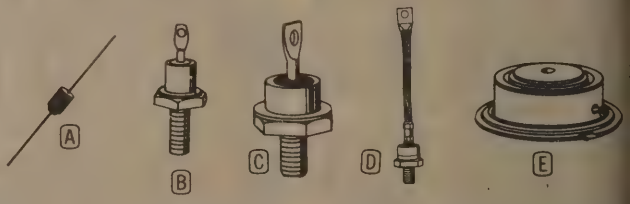
JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
350 mAMP OUTPUT (Cont'd) (FIG. C)			
67D400H20TTS	40K	$79.46	$69.35
67D500H20TTS	50K	98.44	85.98
67D600H20TTS	60K	118.89	103.45
67D750H20TTS	75K	149.69	129.98
400 mAMP OUTPUT (FIG. E)			
		1-49	50-99
50MV80	8000	$4.75	$3.57
50MV100	10K	4.92	3.70
50MV120	12K	5.03	3.78

JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
1250 mAMP OUTPUT (FIG. C)			
1N4865	1500	$ 8.45	$ 7.34
1N4866	2400	10.67	9.27
1N4867	3000	10.84	10.51
1N4868	5000	14.75	12.80
1N4869	7500	20.58	17.86
1N4870	10K	26.60	23.08
1N4871	12K	30.67	26.61
1N4872	15K	37.47	32.51
1N4873	20K	48.72	42.27
1N4874	25K	59.79	51.87
1N4875	30K	71.63	62.14
1N4876	40K	93.57	81.18
1N4877	50K	116.47	101.05
1N4887	75K	172.77	149.89

JEDEC or I-R No.	PRV Volts	Net Each, Lots 1-9	10-24
1250 mAMP OUTPUT (FIG. C)			
67C015H20LSS	1500	$ 9.00	$ 7.8
67C024H20LSS	2400	11.36	9.8
67C030H20LSS	3000	11.54	10.0
67C050H20LSS	5000	15.71	13.6
67C075H20LSS	7500	21.92	19.0
67C100H20LSS	10K	28.33	24.5
67C120H20LSS	12K	32.66	28.3
67C150H20LSS	15K	39.91	34.6
67C200H20LSS	20K	51.89	45.0
67C250H20LSS	25K	63.68	55.2
67C300H20LSS	30K	76.29	66.1
67C400H20LSS	40K	99.65	86.4
67C500H20LSS	50K	124.04	107.6
67C750H20LSS	75K	184.00	159.6

FAST RECOVERY RECTIFIERS

JEDEC or I-R No.	PRV Volts	t_{rr} µsec	Net Each, Lots 1-49	50-99
4 AMP MOLDED (FIG. A)				
40SL05	50	0.2	$0.85	$0.68
40SL1	100	0.2	.89	.72
40SL2	200	0.2	1.00	.80
40SL4	400	0.2	1.40	1.20
40SL6	600	0.2	1.65	1.32
6 AMP STUD (FIG. B)				
1N3879, R	50	0.3	$2.10#	$1.65‡
1N3880, R	100	0.3	2.50#	1.95‡
1N3881, R	200	0.3	3.00#	2.30‡
1N3882, R	300	0.3	3.50#	2.70‡
1N3883, R	400	0.3	4.00#	3.10‡
12 AMP STUD (FIG. B)				
1N3889, R	50	0.3	$2.60#	$2.00‡
1N3890, R	100	0.3	3.00#	2.30‡
1N3891, R	200	0.3	3.50#	2.70‡
1N3892, R	300	0.3	4.00#	3.10‡
1N3893, R	400	0.3	5.50#	4.25‡
12 AMP STUD (FIG. B)				
12FL5S02	50	0.2	$2.80*	$1.99†
12FL10S02	100	0.2	3.20*	2.03†
12FL20S02	200	0.2	3.94*	2.48†
12FL40S02	400	0.2	5.70*	3.58†
12FL60S02	600	0.2	6.91*	4.32†
12FL80S02	80	0.2	8.10*	5.10†
12FL100S02	100	0.2	9.52*	6.00†
16 AMP STUD (FIG. B)				
16FL5S02	50	0.2	$3.10*	$1.94†
16FL10S02	100	0.2	3.90*	2.44†
16FL20S02	200	0.2	4.60*	2.88†
16FL40S02	400	0.2	6.70*	4.18†
16FL60S02	600	0.2	7.50*	4.69†
16FL80S02	80	0.2	9.72*	6.12†
16FL100S02	100	0.2	11.42*	7.20†
20 AMP MOLDED (FIG. A)				
1JK30	3K	0.06	$0.82	0.61
1JK60	6K	0.06	.95	.71
1JK100	10K	0.06	1.30	.98
1JK120	12K	0.06	1.53	1.15
1JK150	15K	0.06	1.76	1.32
1JK160	16K	0.06	1.92	1.44
1JK180	18K	0.06	2.12	1.59
20 AMP STUD (FIG. C)				
			1-49	50-99
IRD3899, R	50	0.35	$3.00	$2.53
IRD3900, R	100	0.35	3.27	2.76
IRD3901, R	200	0.35	3.80	3.22
IRD3902, R	300	0.35	4.33	3.66
IRD3903, R	400	0.35	4.80	4.05
30 AMP STUD (FIG. C)				
IRD3909, R	50	0.35	$3.55	$3.00
IRD3910, R	100	0.35	4.18	3.53
IRD3911, R	200	0.35	4.55	3.84
IRD3912, R	300	0.35	5.55	4.69
IRD3913, R	400	0.35	6.36	5.37
40 AMP STUD (FIG. C)				
40HFL5S02	50	0.2	★	★
40HFL10S02	100	0.2	$4.56*	$3.13†



JEDEC or I-R No.	PRV Volts	t_{rr} µsec	Net Each, Lots 1-49	50-99
40 AMP STUD (FIG. C) (Cont'd)				
40HFL10S05	100	0.5	$4.37*	$3.02†
40HFL10S10	100	1.0	★	★
40HFL20S02	200	0.2	5.09*	3.50†
40HFL20S05	200	0.5	4.91*	3.39†
40HFL20S10	200	1.0	★	★
40HFL40S02	400	0.2	8.00*	5.50†
40HFL40S05	400	0.5	7.08*	4.87†
40HFL40S10	400	1.0	★	★
40HFL60S02	600	0.2	10.18*	7.00†
40HFL60S05	600	0.5	9.45*	6.50†
40HFL60S10	600	1.0	★	★
40HFL80S05	800	0.5	13.40*	8.37†
40HFL80S10	800	1.0	★	★
40HFL100S05	1000	0.5	16.80*	10.50†
40HFL100S10	1000	1.0	★	★
70 AMP STUD (FIG. C)				
70HFL10S02	100	0.2	$7.81	$6.51
70HFL10S05	100	0.5	7.56	6.26
70HFL10S10	100	1.0	★	★
70HFL20S02	200	0.2	12.56	10.60
70HFL20S05	200	0.5	12.06	10.10
70HFL20S10	200	1.0	★	★
70HFL40S02	400	0.2	15.00	12.65
70HFL40S05	400	0.5	14.50	12.15
70HFL40S10	400	1.0	★	★
70HFL60S02	600	0.2	17.87	15.07
70HFL60S05	600	0.5	17.37	14.57
70HFL60S10	600	1.0	★	★
70HFL80S05	800	0.5	22.81	17.39
70HFL80S10	800	1.0	★	★
70HFL100S05	1000	0.5	28.18	23.06
70HFL100S10	1000	1.0	★	★
250 AMP STUD (FIG. D)				
251UL20S10	200	1.0	$60.50§	$35.58*
251UL20S15	200	1.5	52.50§	32.80*
251UL40S10	400	1.0	66.50§	39.11*
251UL40S15	400	1.5	52.50§	32.80*
251UL60S10	600	1.0	73.00§	42.95*
251UL60S15	600	1.5	58.60§	36.62*
251UL60S20	600	2.0	52.50§	32.80*
251UL80S10	800	1.0	78.76§	46.32*
251UL80S15	800	1.5	65.62§	41.01*
251UL80S20	800	2.0	53.80§	32.96*
251UL100S10	1000	1.0	84.30§	49.58*
251UL100S15	1000	1.5	70.24§	43.90*
251UL100S20	1000	2.0	55.10§	33.10*
251UL120S20	1200	2.0	58.45§	35.50*
251UL140S20	1400	2.0	62.30§	37.55*

JEDEC or I-R No.	PRV Volts	t_{rr} µsec	Net Each, Lots 1-49	50-99
250 AMP STUD (FIG. D) (Cont'd)				
251UL140S25	1400	2.5	$60.60§	$35.6
251UL140S30	1400	3.0	57.50§	33.8
251UL160S25	1600	2.5	68.60§	40.3
251UL160S30	1600	3.0	65.00§	38.4
251UL180S25	1800	2.5	79.60§	46.8
251UL180S30	1800	3.0	75.00§	44.5
400 AMP HOCKEY-PUK (FIG. E)				
401PDA20L15	200	1.5	$64.00§	$40.0
401PDA40L15	400	1.5	70.08§	43.8
401PDA60L15	600	1.5	76.48§	47.8
401PDA60L20	600	2.0	57.36§	36.8
401PDA80L15	800	1.5	84.80§	53.0
401PDA80L20	800	2.0	63.60§	39.7
401PDA100L15	1000	1.5	97.60§	61.0
401PDA100L20	1000	2.0	73.20§	45.7
401PDA100L25	1000	2.5	61.00§	38.1
401PDA100L30	1000	3.0	48.80§	30.5
401PDA120L20	1200	2.0	84.00§	52.5
401PDA120L25	1200	2.5	70.00§	43.7
401PDA120L30	1200	3.0	56.00§	35.0
401PDA140L20	1400	2.0	96.00§	60.0
401PDA140L25	1400	2.5	80.00§	50.0
401PDA140L30	1400	3.0	64.00§	40.0
401PDA160L25	1600	2.5	92.00§	57.5
401PDA160L30	1600	3.0	73.60§	46.0
401PDA180L25	1800	2.5	106.00§	66.2
401PDA180L30	1800	3.0	84.80§	53.0
650 AMP HOCKEY-PUK (FIG. E)				
651PDB40L20	400	2.0	129.97§	$77.7
651PDB40L25	400	2.5	123.47§	73.8
651PDB50L20	500	2.0	144.41§	86.3
651PDB50L25	500	2.5	137.20§	82.0
651PDB60L20	600	2.0	158.83§	95.0
651PDB60L25	600	2.5	161.34§	96.5
651PDB80L20	800	2.0	185.16§	110.7
651PDB80L25	800	2.5	176.49§	105.5
651PDB80L30	800	3.0	160.50§	96.0
651PDB100L25	1000	2.5	187.25§	112.0
651PDB100L30	1000	3.0	177.86§	106.6
651PDB120L25	1200	2.5	207.58§	124.1
651PDB120L30	1200	3.0	197.10§	118.2
651PDB130L30	1300	3.0	211.51§	126.9
651PDB140L30	1400	3.0	228.33§	137.0
651PDB160L30	1600	3.0	246.36§	148.0

★Prices available on request. *Lots of 1-99. †Lots of 100-999. §Lots of 1-9. *Lots of 10-99. #Lots of 1-4. ‡Lots of 5-9.

INTERNATIONAL RECTIFIER
Rectifier Assemblies

RECTIFIER ASSEMBLIES

se assemblies are designed both for replacement and for new designs offer a convenient solution to bridge rectifier requirements. They are built in a modular system using standard devices and hardware with Z-MOV™ (Zenamic Metal Oxide Varistors) used for transient suppression.

I-R No.	I_{DC} Amps NC	I_{DC} Amps FA	I_{FSM} Surge Amps	V_{AC} rms Volts	Net Each, Lots of 1-4	Net Each, Lots of 5 Up
SINGLE-PHASE, FULL-WAVE RECTIFIER ASSEMBLIES						
5P2AA40	15	35	300	180	$ 33.00	$ 31.46
5P2AA60	15	35	300	260	36.03	34.32
5P2AA100	15	35	300	440	51.04	48.62
0G2AA40	50	70	500	180	61.49	58.58
0G2AA60	50	70	500	260	69.36	66.06
0G2AA100	50	70	500	440	100.43	95.64
0G2AA120	50	70	500	550	119.08	113.41
0H2AA40	70	70	500	180	67.38	64.19
0H2AA60	70	70	500	260	74.75	71.17
0H2AA100	70	70	500	440	105.82	100.76
0H2AA120	70	70	500	550	126.72	120.67
00H2AA40	100	120	1200	180	74.69	71.12
00H2AA60	100	120	1200	260	93.01	88.55
00H2AA100	100	120	1200	440	134.70	128.26
00H2AA120	100	120	1200	550	162.91	155.16
20K2AA40	120	120	1200	180	86.41	82.28
20K2AA60	120	120	1200	260	101.15	96.36
20K2AA100	120	120	1200	440	142.83	136.02
20K2AA120	120	120	1200	550	171.05	162.91
00K2AA40	200	250	3000	180	148.89	141.79
00K2AA60	200	250	3000	260	157.19	149.71
00K2AA100	200	250	3000	440	196.57	187.22
00K2AA120	200	250	3000	550	209.88	199.87
50K4AA40	250	250	3000	180	173.09	164.84
50K4AA60	250	250	3000	260	181.78	173.14
50K4AA100	250	250	3000	440	221.21	210.71
50K4AA120	250	250	3000	550	234.36	223.19
00K4AA40	300	500	5000	180	221.98	212.19
00K4AA60	300	500	5000	260	235.02	223.80
00K4AA100	300	500	5000	440	352.99	336.16
00K4AA120	300	500	5000	550	424.55	404.36
SINGLE-PHASE, HALF-CONTROLLED BRIDGE ASSEMBLIES						
C120K4AA40	120	120	1600	120	$442.20	$422.29
C120K4AA60	120	120	1600	120/240	513.70	446.90
C250V4AA40	250	250	4250	120	652.30	621.50
C250V4AA60	250	250	4250	120/240	660.00	628.58
SINGLE-PHASE, AC PHASE-CONTROLLED SWITCH ASSEMBLIES						
A120K2AA40	120	120	1600	120	$356.40	$339.90
A120K2AA60	120	120	1600	120/240	378.40	360.80
AC CONTACTOR, ZERO-CROSSING SWITCH ASSEMBLIES						
120K2AA40	120	120	1600	180	$299.20	$284.90
120K2AA60	120	120	1600	260	431.20	410.30
120K2AA100	120	120	1600	440	491.70	468.60
250X1AA40	250	350	4250	180	489.50	466.40
250X1AA60	250	350	4250	260	500.50	476.30
250X1AA100	250	350	4250	440	579.70	552.20
300X1AA40	300	500	7000	180	553.30	526.90
300X1AA60	300	500	7000	260	578.60	551.10
300X1AA100	300	500	7000	440	673.20	641.30
THREE-PHASE, FULL-WAVE RECTIFIER ASSEMBLIES						
CT50G2AA40	50	80	500	180	$ 81.24	$ 77.39
CT50G2AA60	50	80	500	260	95.37	90.81
CT50G2AA100	50	80	500	440	146.52	139.54
CT50G2AA120	50	80	500	550	176.00	167.64
CT80H2AA40	80	100	500	180	89.43	85.19
CT80H2AA60	80	100	500	260	100.72	95.92
CT80H2AA100	80	100	500	440	151.97	144.85
CT80H2AA120	80	100	500	550	182.49	173.80
CT150K3AA40	150	180	1200	180	126.29	120.29
CT150K3AA60	150	180	1200	260	148.72	141.63
CT150K3AA100	150	180	1200	440	215.82	205.54
CT150K3AA120	150	180	1200	550	258.06	245.80
CT300K3AA40	300	400	3000	180	276.22	215.44
CT300K3AA60	300	400	3000	260	238.65	227.32
CT300K3AA100	300	400	3000	440	311.52	296.67
CT300K3AA120	300	400	3000	550	331.43	315.65
CT400K6AA40	400	400	3000	180	261.97	249.48
CT400K6AA60	400	400	3000	260	275.61	262.52
CT400K6AA100	400	400	3000	440	348.48	331.16
CT400K6AA120	400	400	3000	550	368.39	350.85
CT500K6AA40	500	700	5000	180	326.98	311.41
CT500K6AA60	500	700	5000	260	346.45	329.95
CT500K6AA100	500	700	5000	440	523.38	398.37
CT500K6AA120	500	700	5000	550	630.69	600.66
CT700U6AA40	700	700	5000	180	389.57	371.03
CT700U6AA60	700	700	5000	260	446.00	424.77
CT700U6AA100	700	700	5000	440	623.04	593.34
CT700U6AA120	700	700	5000	550	746.63	711.06
CT1000V6AA40	1000	1200	8000	180	723.36	688.93
CT1000V6AA60	1000	1200	8000	260	759.55	723.36
CT1000V6AA100	1000	1200	8000	440	1086.47	1034.70
CT1000V6AA120	1000	1200	8000	550	1309.50	1247.13
CT1500X6AA60	1500	2200	10000	260	1443.70	1374.95
CT1500X6AA100	1500	2200	10000	440	1487.15	1416.36
CT1500X6AA120	1500	2200	10000	550	1500.24	1428.79
THREE-PHASE, HALF-CONTROLLED BRIDGE ASSEMBLIES						
CTC150K6AA60	150	180	1600	240	$ 761.20	$ 724.90
CTC150K6AA100	150	180	1600	240/440	929.50	885.50
CTC350V6AA60	350	400	4250	240	1071.40	1020.80
CTC350V6AA100	350	400	4250	240/440	1378.30	1312.30

SOLID-STATE TUBE REPLACEMENTS

lacements for vacuum and mercury-vapor rectifier tubes. Advantages olid-state replacements include: no filament power, no warm-up time, g life, and high shock resistance.

I-R No.	V_{RRM} Volts	V_{FM} Volts	I_F mA	Replaces	Net Each, Lots of 1-9	10-24	25-99
570	1500	1.8	75	6X4, 12X4, 80, 82, 83, 83V	$17.50	$15.31	$13.12
1150A	1600	3.0	750	.....	17.50	15.31	13.12
1237	1600	3.0	750	0Z4, 5X4, 5Y4, 6AX5, 6X5	17.50	15.31	13.12
1238	1600	3.0	750	5AV4, 5AW4, 5AZ4, 5T4, 5U4, 5V4, 5W4, 5Y3, 5Z4	17.50	15.31	13.12
1239	2800	6.0	500	5R4	20.83	18.22	15.61
1262	4500	4.5	250	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 17AX4, 25W4	17.48	15.29	13.11
2389	1600	5.3	600	5AY4, 5AW4, 5AX4, 5T4, 5U4, 5V4, 5W4, 5Y3, 5Z4, 6004	17.50	15.31	13.12
2490	1600	3.0	500	6AX4	17.50	15.31	13.12
1N2630	1500	1.8	85	6X4, 12X4	$17.50	$15.31	$13.12
1N2631	1600	1.8	600	5AW4, 5AX4, 5AZ4, 5T4, 5U4, 5Y3, 6004	17.50	15.31	13.12
1N2632	2800	2.7	200	.....	20.83	18.22	15.61
1N2633	1600	1.8	600	0Z4, 5X4, 6AX5, 6W5, 6X5, 6ZY5, 5839, 5852	17.50	15.31	13.12
1N2634	1600	3.6	600	5Z3, 80, 82, 83	17.50	15.31	13.12
1N2635	1500	3.6	85	6X4, 12X4	17.50	15.31	13.12
1N2636	1500	3.6	85	84/6Z4	17.50	15.31	13.12
1N2637	10400	11.0	250	3B28, 249B, 866, 866A	31.81	27.83	23.86
ST-8	1250	6.2	80	0Z4, 6X5	19.09	16.71	14.31
ST-9	10000	14.0	1250	8008	92.46	80.91	69.34
ST-10	10000	14.0	1250	872A	92.46	80.91	69.34
ST-11	7500	8.1	125	816	23.12	20.23	17.33
ST-12	40000	54.0	100	8020	101.68	88.97	76.25
ST-13	1275	1.8	130	6BW4, 12BW4	15.97	13.96	11.97
ST-14	1600	5.3	600	5AV4, 5AW4, 5AX4, 5T4, 5U4, 5Y4, 5W4, 5Y3, 5Z4, 6004	19.01	16.63	14.28
ST-15	15000	15.0	1750	673	109.74	95.99	82.24
ST-16	15000	15.0	1750	575A	109.74	95.99	82.24

INTERNATIONAL RECTIFIER
Semiconductor Protective Fuses

SEMICONDUCTOR PROTECTIVE FUSES

- Identical replacements for Buss and Chase-Shawmut lines.
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- Competitively priced.
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I-R No.	Ratings		Net Each, Lots	
	Amps	Volts	1-24	25-999
SF13X5	5	130	$ 2.26	$ 2.05
SF13X10	10	130	2.26	2.05
SF13X15	15	130	2.26	2.05
SF13X20	20	130	2.26	2.05
SF13X25	25	130	2.26	2.05
SF13X30	30	130	2.26	2.05
SF13X35	35	130	4.78	4.35
SF13X40	40	130	4.78	4.35
SF13X45	45	130	4.78	4.35
SF13X50	50	130	4.78	4.35
SF13X60	60	130	4.78	4.35
SF13X70	70	130	8.91	8.10
SF13X80	80	130	8.91	8.10
SF13X100	100	130	8.91	8.10
SF13X125	125	130	8.91	8.10
SF13X150	150	130	8.91	8.10
SF13X200	200	130	9.35	8.50
SF13X250	250	130	9.35	8.50
SF13X300	300	130	9.35	8.50
SF13X350	350	130	9.35	8.50
SF13X400	400	130	9.35	8.50
SF13X500	500	130	21.23	19.30
SF13X600	600	130	21.23	19.30
SF13X700	700	130	25.30	23.00
SF13X800	800	130	25.30	23.00
SF25X5	5	250	2.47	2.25
SF25X10	10	250	2.47	2.25
SF25X15	15	250	2.47	2.25
SF25X20	20	250	2.47	2.25
SF25X25	25	250	2.47	2.25
SF25X30	30	250	2.47	2.25
SF25X35	35	250	8.58	7.80
SF25X40	40	250	8.58	7.80
SF25X50	50	250	8.58	7.80
SF25X60	60	250	8.58	7.80
SF25X70	70	250	11.00	10.00
SF25X80	80	250	11.00	10.00
SF25X100	100	250	11.00	10.00
SF25X125	125	250	11.00	10.00
SF25X150	150	250	11.00	10.00
SF25X175	175	250	11.00	10.00
SF25X200	200	250	11.00	10.00
SF25X225	225	250	13.96	12.69
SF25X250	250	250	13.96	12.69
SF25X300	300	250	13.96	12.69
SF25X350	350	250	13.96	12.69
SF25X400	400	250	13.96	12.69
SF25X450	450	250	20.13	18.30
SF25X500	500	250	20.13	18.30
SF25X600	600	250	20.13	18.30
SF50P35	35	500	6.60	6.00
SF50P40	40	500	6.60	6.00
SF50P45	45	500	6.60	6.00
SF50P50	50	500	6.60	6.00
SF50P60	60	500	6.60	6.00
SF50P70	70	500	8.11	7.38
SF50P80	80	500	8.11	7.38
SF50P90	90	500	8.11	7.38
SF50P100	100	500	8.11	7.38
SF50P125	125	500	12.54	11.40
SF50P150	150	500	12.54	11.40
SF50P175	175	500	12.54	11.40
SF50P200	200	500	12.54	11.40
SF50P250	250	500	16.94	15.40
SF50P300	300	500	16.94	15.40
SF50P350	350	500	16.94	15.40
SF50P400	400	500	16.94	15.40
SF50P450	450	500	28.60	26.00
SF50P500	500	500	28.60	26.00
SF50P550	500	500	28.60	26.00
SF50P600	600	500	28.60	26.00
SF50P700	700	500	47.30	43.00
SF50P800	800	500	47.30	43.00
SF60C5	5	600	6.38	5.80
SF60C10	10	600	6.38	5.80

I-R No.	Ratings		Net Each, Lots	
	Amps	Volts	1-24	25-999
SF60C15	15	600	$ 6.38	$ 5.80
SF60C20	20	600	6.38	5.80
SF60C25	25	600	6.38	5.80
SF60C30	30	600	6.38	5.80
SF60C35	35	600	8.30	7.55
SF60C40	40	600	8.30	7.55
SF60C45	45	600	8.30	7.55
SF60C50	50	600	8.30	7.55
SF60C60	60	600	8.30	7.55
SF60C70	70	600	10.67	9.70
SF60C80	80	600	10.67	9.70
SF60C90	90	600	10.67	9.70
SF60C100	100	600	10.67	9.70
SF60C125	125	600	15.51	14.10
SF60C150	150	600	15.51	14.10
SF60C175	175	600	15.51	14.10
SF60C200	200	600	15.51	14.10
SF60C225	225	600	23.92	21.75
SF60C250	250	600	23.92	21.75
SF60C300	300	600	23.92	21.75
SF60C350	350	600	23.92	21.75
SF60C400	400	600	23.92	21.75
SF60C450	450	600	42.90	39.00
SF60C500	500	600	42.90	39.00
SF60C600	600	600	42.90	39.00
SF60C700	700	600	55.55	50.50
SF60C800	800	600	55.55	50.50
SF60X5	5	600	6.99	5.80
SF60X10	10	600	6.99	5.80
SF60X15	15	600	6.99	5.80
SF60X20	20	600	6.99	5.80
SF60X25	25	600	6.99	5.80
SF60X30	30	600	6.99	5.80
SF60X35	35	600	8.30	7.55
SF60X40	40	600	8.30	7.55
SF60X50	50	600	8.30	7.55
SF60X60	60	600	8.30	7.55
SF60X70	70	600	10.67	9.70
SF60X80	80	600	10.67	9.70
SF60X90	90	600	10.67	9.70
SF60X100	100	600	10.67	9.70
SF60X125	125	600	15.51	14.10
SF60X150	150	600	15.51	14.10
SF60X175	175	600	15.51	14.10
SF60X200	200	600	15.51	14.10
SF60X250	250	600	23.92	21.75
SF60X300	300	600	23.92	21.75
SF60X350	350	600	23.92	21.75
SF60X400	400	600	23.92	21.75
SF60X450	450	600	42.90	39.00
SF60X500	500	600	42.90	39.00
SF60X600	600	600	42.90	39.00
SF70P10	10	700	4.07	3.70
SF70P15	15	700	4.07	3.70
SF70P20	20	700	4.07	3.70
SF70P25	25	700	4.07	3.70
SF70P30	30	700	4.07	3.70
SF70P35	35	700	9.90	9.00
SF70P40	40	700	9.90	9.00
SF70P50	50	700	9.90	9.00
SF70P60	60	700	9.90	9.00
SF70P70	70	700	13.09	11.90
SF70P80	80	700	13.09	11.90
SF70P90	90	700	13.09	11.90
SF70P100	100	700	13.09	11.90
SF70P125	125	700	16.94	15.40
SF70P150	150	700	16.94	15.40
SF70P175	175	700	16.94	15.40
SF70P200	200	700	16.94	15.40
SF70P250	250	700	29.14	26.50
SF70P300	300	700	29.14	26.50
SF70P400	400	700	29.14	26.50
SF70P500	500	700	52.80	48.00
SF70P600	600	700	52.80	48.00
SF70P800	800	700	63.80	58.00

EUROPEAN TYPE FUSES

These fuses are standard in equipment which has been manufactured overseas. Some U.S. manufacturers also use these fuses.

I-R No.	Ratings		Net Each, Lots	
	Amps	Volts	1-9	10-24
A350-5	5	250	$ 2.53	$ 2.41
A350-10	10	250	2.53	2.41
A350-15	15	250	2.53	2.41
A350-20	20	250	2.53	2.41
T350-150	150	250	17.58	16.75
T350-200	200	250	17.58	16.75
T350-250	250	250	17.58	16.75
T350-300	300	250	17.58	16.75
T350-350	350	250	17.58	16.75
L350-7	7	250	5.71	5.43
L350-10	10	250	5.71	5.43
L350-12	12	250	5.71	5.43
L350-16	16	250	5.71	5.43
L350-25	25	250	6.93	6.60
L350-30	30	250	6.93	6.60
L350-35	35	250	6.93	6.60
L350-60	60	250	6.93	6.60
L350-75	75	250	6.93	6.60
L350-100	100	250	8.03	7.65
L350-125	125	250	8.03	7.65
L350-160	160	250	8.03	7.65
L350-175	175	250	8.03	7.65
TT350-400	400	250	40.11	38.20
TT350-500	500	250	40.11	38.20
TT350-600	600	250	40.11	38.20
TT350-700	700	250	41.08	39.12
B1000-5	5	700	2.91	2.77
B1000-10	10	700	2.91	2.77
B1000-15	15	700	2.91	2.77
B1000-20	20	700	2.91	2.77
EE1000-65	65	700	16.41	15.62
EE1000-75	75	700	16.41	15.62
EE1000-90	90	700	16.41	15.62
EE1000-110	110	700	18.01	17.16
EE1000-150	150	700	18.01	17.16
MM1000-175	175	700	41.95	39.95
MM1000-200	200	700	41.95	39.95
MM1000-235	235	700	45.44	43.28
MM1000-275	275	700	45.44	43.28
MM1000-290	290	700	45.44	43.28
MM1000-300	300	700	51.28	48.84
MM1000-350	350	700	51.28	48.84
MM1000-400	400	700	51.28	48.84
MM1000-500	500	700	51.28	48.84
E1000-8	8	700	6.23	5.94
E1000-12	12	700	6.23	5.94
E1000-15	15	700	6.23	5.94
E1000-20	20	700	6.23	5.94
E1000-25	25	700	8.66	8.25
E1000-30	30	700	8.66	8.25
E1000-40	40	700	8.66	8.25
E1000-45	45	700	8.66	8.25
E1000-55	55	700	8.66	8.25
E1000-75	75	700	9.35	8.91
M1000-150	150	700	23.23	21.12
M1000-190	190	700	23.23	21.12
M1000-200	200	700	25.29	24.09
M1000-250	250	700	25.29	24.09

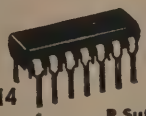
OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.

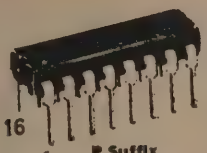
McMOS™ MC14000 SERIES COMPLEMENTARY MOS



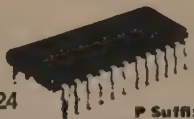
P Suffix
Plastic Package
CASE 626



P Suffix
Plastic Package
Case 646



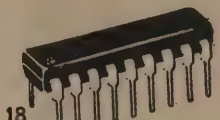
P Suffix
Plastic Package
Case 648



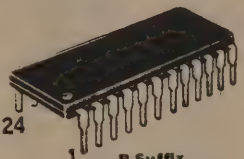
P Suffix
Plastic Package
Case 649



P Suffix
Plastic Package
CASE 704



P Suffix
Plastic Package
CASE 707



P Suffix
Plastic Package
CASE 709

utput logic excursion is independent of fan out; diode protection on all inputs. Temperature, voltage and package descriptions are ven in table below. All devices are available in chip form. Types with **B** in part number conform to the JEDEC B-Series specifica- ons. Listed units in ceramic packages are in Case 620 unless otherwise noted; plastic packages are in Case 648 unless otherwise noted.

SUFFIX LETTER DESIGNATORS

uffix	Description
AL	3 to 18 V, −55° C to +125° C, ceramic package
CL	3 to 18 V, −40° C to +85° C, ceramic package
CP	3 to 18 V, −40° C to +85° C, plastic package
L	Limited voltage range, limited temperature range, ceramic package
P	Limited voltage range, limited temperature range, plastic package

Suffix	Description
EFL	3 to 18 V, −55° C to +125° C, ceramic package
FL	3 to 18 V, −40° C to +85° C, ceramic package
FP	3 to 18 V, −40° C to +85° C, plastic package
EVL	3 to 6 V, −55° C to +125° C, ceramic package
VL	3 to 6 V, −40° C to +85° C, ceramic package
VP	3 to 6 V, −40° C to +85° C, plastic package
Z	Limited voltage range, limited temperature range, leadless ceramic package

Motorola Type	Function	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49
MC14000UB	Dual 3-input NOR gate/inverter	-AL†	$0.88	$0.84	-CL†	$0.76	$0.73	-CP^	$0.59	$0.56
MC14001B	Quad 2-input NOR gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14001UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14002B	Dual 4-input NOR gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14002UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14006B	18-bit static shift register	-AL†	3.12	2.98	-CL†	2.70	2.57	-CP^	2.08	1.98
MC14007UB	Dual comp. pair plus inverter	-AL†	.88	.84	-CL†	.76	.73	-CL^	.59	.56
MC14008B	4-bit full adder	-AL	2.76	2.63	-CL	2.39	2.28	-CP	1.83	1.75
MC14011B	Quad 2-input NAND gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14011UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14012B	Dual 4-input NAND gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14012UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14013B	Dual D flip-flop	-AL†	1.58	1.51	-CL†	1.36	1.30	-CP^	1.06	1.01
MC14014B	8-bit static shift register	-AL	2.76	2.63	-CL	2.39	2.28	-CP	1.83	1.75
MC14015B	Dual 4-bit static shift register	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14016B	Quad ana. switch/multiplexer	-AL†	1.58	1.51	-CL†	1.36	1.30	-CP^	1.06	1.01
MC14017B	Decade counter/divider	-AL	2.76	2.63	-CL	2.39	2.28	-CP	1.83	1.75
MC14018B	Preset. divide by N counter	-AL	2.51	2.39	-CL†	2.17	2.07	-CP	1.67	1.59
MC14020B	14-bit binary counter	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14021B	8-bit static shift register	-AL	2.76	2.63	-CL	2.39	2.28	-CP	1.83	1.75
MC14022B	Octal counter/divider	-AL	2.76	2.63	-CL	2.39	2.28	-CP	1.83	1.75
MC14023B	Triple 3-input NAND gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14023UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14024B	7-stage ripple counter	-AL†	2.35	2.23	-CL†	2.02	1.93	-CP^	1.56	1.48
MC14025B	Triple 3-input NOR gate	-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14025UB		-AL†	.88	.84	-CL†	.76	.73	-CP^	.59	.56
MC14027B	Dual J-K flip-flop	-AL	1.58	1.51	-CL	1.36	1.30	-CP	1.06	1.01
MC14028B	BCD-to-decimal decoder	-AL	2.23	2.12	-CL	1.94	1.84	-CP	1.50	1.43
MC14029B	Bin./Dec. up/down ctr.	-AL	3.12	2.98	-CL	2.71	2.58	-CP	2.08	1.98
MC14032B	Triple serial adder (+ logic)	-AL	4.83	4.60	-CL	4.18	3.98	-CP	3.21	3.06
MC14034B	8-bit univ. bus register	-AL‡	7.70	7.33	-CL‡	6.67	6.36	-CP°	5.13	4.89
MC14035B	4-bit shift register	-AL	4.09	3.90	-CL	3.55	3.38	-CP	2.73	2.60
MC14038B	Triple serial adder (− logic)	-AL	4.83	4.60	-CL	4.18	3.98	-CP	3.21	3.06
MC14040B	12-bit binary counter	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14042B	Quad latch	-AL	2.35	2.23	-CL	2.02	1.93	-CP	1.56	1.48
MC14043B	Quad NOR R-S latch	-AL	2.19	2.08	-CL	1.89	1.80	-CP	1.45	1.38
MC14044B	Quad NAND R-S latch	-AL	2.19	2.08	-CL	1.89	1.80	-CP	1.45	1.38
MC14046B	Phase locked loop	-AL	3.46	3.30	-CL	2.99	2.85	-CP	2.30	2.19
MC14049UB	Hex inverter/buffer	-AL	1.58	1.51	-CL	1.36	1.30	-CP	1.06	1.01
MC14050B	Hex buffer	-AL	1.58	1.51	-CL	1.36	1.30	-CP	1.06	1.01
MC14051B	8-channel analog multiplexer	-AL	2.86	2.72	-CL	2.48	2.36	-CP	1.91	1.82
MC14052B	Dual 4-ch. analog multiplexer	-AL	2.86	2.72	-CL	2.48	2.36	-CP	1.91	1.82
MC14053B	Triple 2-ch. analog multiplexer	-AL	2.86	2.72	-CL	2.48	2.36	-CP	1.91	1.82
MC14066B	Quad analog switch	-AL†	1.76	1.68	-CL†	1.53	1.45	-CP^	1.17	1.12

COMPLEMENTARY CMOS LISTING CONTINUED ON FOLLOWING PAGE

McMOS™ MC 14000 SERIES COMPLEMENTARY MOS (Cont'd)

Motorola Type	Function	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Suffix	Net Each, Lots of 1-9	Net Each, Lots of 10-49
MC14068B	8-input NAND gate	-AL†	$0.88	$0.84	-CL†	$0.76	$0.73	-CP▲	$0.59	$0.56
MC14069UB	Hex inverter	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14070B	Quad Exclusive-OR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14071B	Quad 2-input OR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14072B	Dual 4-input OR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14073B	Triple 3-input AND gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14075B	Triple 3-input OR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14076B	Quad D type register	-AL	3.46	3.30	-CL	2.99	2.85	-CP	2.30	2.19
MC14077B	Quad Exclusive-NOR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14078B	8-input NOR gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14081B	Quad 2-input AND gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14082B	Dual 4-input AND gate	-AL†	.88	.84	-CL†	.76	.73	-CP▲	.59	.56
MC14093B	Quad 2-in. NAND Schmitt trig.	-AL†	1.72	1.63	-CL†	1.48	1.41	-CP▲	1.14	1.09
MC14094B	8-stage shift/store reg.	-AL	6.63	6.31	-CL	5.75	5.48	-CP	4.41	4.20
MC14099B	8-bit addressable latch	-AL	3.81	3.63	-CL	3.30	3.14	-CP	2.54	2.42
MC14160B	Decade counter (asyn. clear)	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14161B	Binary counter (asyn. clear)	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14162B	Decade counter (syn. clear)	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14163B	Binary counter (syn. clear)	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14174B	Hex D flip-flop	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14175B	Quad D flip-flop	-AL	2.80	2.67	-CL	2.43	2.32	-CP	1.88	1.79
MC14194B	4-bit univ. shift register	-AL	3.12	2.98	-CL	2.70	2.57	-CP	2.08	1.98
MC14406	Pulse code modulator	-L	69.74	66.42	-P	63.05	60.05	...	....	....
MC14407	Pulse code modulator	-L	57.16	54.44	...	....	....	...	....	....
MC14408	Binary-to-phone pulse conv.	-L	22.35	21.38	-P	14.72	14.02	...	....	....
MC14409	Binary-to-phone pulse conv.	-L	22.35	21.28	-P	14.72	14.02	...	....	....
MC14410	2-of-8 tone encoder	-L	20.68	19.69	-P	13.61	12.96	...	....	....
MC14411	Bit rate generator	-L‡	22.61	21.53	-P	17.13	16.31	...	....	....
MC14412	Low speed MODEM	-FL	26.91	25.63	-FP	20.69	19.70	-VL	20.18	19.22
		-VP	15.53	14.79	...	....	....	...	....	....
MC14415	Quad timer/driver	-EFL	16.57	15.78	-FL	14.37	13.69	-FP	11.06	10.53
		-EVL	12.43	11.84	-VL	10.78	10.27	-VP	8.29	7.89
MC14416	PCM time slot assigner	-L	16.28	15.50	-P	14.44	13.76	...	....	....
MC14418	PCM time slot assigner	-L	22.73	21.65	-P	19.21	18.29	...	....	....
MC14419	2-of-8 keypad-to-binary enc.	-L	7.36	7.01	-P	4.84	4.61	...	....	....
MC14422	Remote control transmitter	-P	12.05	11.48	...	....	....	...	....	....
MC14433	3½ digit A/D converter	-L‡	27.13	25.84	-P	20.88	19.89	...	....	....
MC14435	3½ digit A/D logic subsystem	-EFL	17.29	16.47	-FL	14.97	14.26	-FP	11.53	10.98
		-EVL	12.96	12.35	-VL	11.23	10.70	-VP	8.64	8.23
MC14443	μP A/D converter	-L	4.41	4.20	-P	4.18	3.98	...	....	....
MC14447	μP A/D converter	-L	8.61	8.20	-P	6.63	6.31	...	....	....
MC14457	Transmitter	-L	8.58	8.17	-P	6.60	6.28	...	....	....
MC14458	Receiver	-L	17.83	16.98	-P	13.73	13.07	...	....	....
MC14460	Auto speed control processor	-L	22.83	21.74	-P	17.13	16.31	...	....	....
MC14466	Low cost smoke detector	...	....	....	-P	3.52	3.35	...	....	....
MC14469	Addressable asynchronous receiver/transmitter	-L	26.15	24.90	-P	19.61	18.67	...	....	....
MC14490	Hex contact bounce eliminator	-EFL	8.75	8.34	-FL	7.61	7.25	-FP	5.60	5.34
		-EVL	6.64	6.33	-VL	5.82	5.54	-VP	4.24	4.04
MC14495	BCD-to-segment decoder driver/latch	-AL	5.03	4.79	-CL	4.36	4.15	-CP	3.34	3.18
		-L	5.75	5.48	-P	3.96	3.77	...	....	....
MC14500B	Industrial control unit	-AL	12.01	11.44	-CL	10.41	9.92	-CP	8.01	7.63
MC14501UB	Triple gate	-AL	.88	.84	-CL	.76	.73	-CP	.59	.56
MC14502B	Strobed hex inverter/buffer	-AL	3.81	3.63	-CL	3.30	3.14	-CP	2.54	2.42
MC14503B	Hex 3-state buffer	-AL	1.86	1.77	-CL	1.61	1.54	-CP	1.23	1.17
MC14504B	Hex TTL or CMOS to CMOS level shifter	-AL	3.56	3.39	-CL	3.09	2.95	-CP	2.38	2.26
MC14506B	Dual exp. AND/OR/invert gate	-AL	2.20	2.10	-CL	1.91	1.82	-CP	1.47	1.40
MC14508B	Dual 4-bit latch	-AL§	9.97	9.50	-CL§	8.64	8.23	-CP•	6.64	6.33
MC14510B	BCD up/down counter	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14511B	BCD-7-seg. latch/dec./driver	-AL	3.17	3.02	-CL	2.74	2.61	-CP	2.11	2.01
MC14512B	8-channel data selector	-AL	3.12	2.98	-CL	2.70	2.57	-CP	2.08	1.98
MC14513B	BCD-7-seg. latch/dec./driver	-AL♦	4.21	4.01	-CL♦	3.65	3.48	-CP‡	2.80	2.67
MC14514B	4/16 line decoder (high)	-AL§	6.41	6.10	-CL§	5.54	5.28	-CP	4.27	4.06
MC14515B	4/16 line decoder (low)	-AL§	6.41	6.10	-CL§	5.54	5.28	-CP•	4.27	4.06
MC14516B	Binary up/down counter	-AL	3.49	3.32	-CL	3.04	2.89	-CP	2.33	2.22
MC14517B	Dual 64-bit static shift reg.	-AL	15.47	14.73	-CL	13.40	12.76	-CP	10.31	9.82
MC14518B	Dual BCD up counter	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14519B	4-bit AND/OR selector	-AL	1.76	1.68	-CL	1.53	1.45	-CP	1.17	1.12
MC14520B	Dual binary up counter	-AL	3.23	3.07	-CL	2.80	2.67	-CP	2.16	2.05
MC14521B	24-stage frequency divider	-AL	7.83	7.46	-CL	6.79	6.47	-CP	5.22	4.97
MC14522B	BCD divide by N counter	-AL	3.97	3.78	-CL	3.45	3.28	-CP	2.65	2.53
MCM14524	256 x 4 bit ROM	-AL	23.40	22.29	-CL	20.28	19.31	-CP	15.60	14.86
MC14526B	Binary divide by N counter	-AL	3.97	3.78	-CL	3.45	3.28	-CP	2.65	2.53
MC14527B	BCD rate multiplier	-AL	3.51	3.34	-CL	3.04	2.89	-CP	2.33	2.22
MC14528B	Dual monostable multivibrator	-AL	3.97	3.78	-CL	3.45	3.28	-CP	2.65	2.53
MC14529B	Dual 4-channel multiplexer	-AL	4.30	4.09	-CL	3.72	3.55	-CP	2.87	2.74
MC14530B	Dual 5-input maj. logic gate	-AL	2.68	2.56	-CL	2.33	2.22	-CP	1.79	1.70
MC14531B	12-bit parity tree	-AL	3.12	2.98	-CL	2.71	2.58	-CP	2.08	1.98
MC14532B	8-bit parity encoder	-AL	6.63	6.31	-CL	5.75	5.48	-CP	4.41	4.20
MC14534B	Real time 5-decade counter	-AL§	20.15	19.19	-CL§	17.46	16.63	-CP•	13.43	12.79
MC14536B	Programmable timer	-AL	10.69	10.18	-CL	9.27	8.83	-CP	7.13	6.79
MCM14537	256 x 1 bit static RAM	-AL	45.60	43.43	-CL	39.52	37.64	-CP	30.40	28.95
MC14538B	Dual monostable multivibrator	-AL	3.97	3.78	-CL	3.45	3.28	-CP	2.65	2.53
MC14539B	Dual 4-channel multiplexer	-AL	3.17	3.02	-CL	2.76	2.63	-CP	2.11	2.01
MC14541B	Oscillator/timer	-AL†	3.96	3.77	-CL†	3.43	3.27	-CP▲	2.64	2.51
MC14543B	BCD-7-seg. latch/dec./driver	-AL	5.79	5.52	-CL	5.02	4.78	-CP	3.86	3.67
MC14544B	BCD-to-7 segment latch/decoder/driver	-AL	11.82	11.26	-CL	10.27	9.78	-CP	7.86	7.49
MC14547B	BCD-to-7 segment latch/decoder/driver	-AL	3.64	3.46	-CL	3.15	3.00	-CP	2.42	2.31
MC14549B	Succ. approximation register	-AL	16.60	15.81	-CL	14.38	13.70	-CP	11.07	10.54

*Minimum order quantity of 12. †Case 632. ‡Case 716. §Case 715. #Case 698. •Case 709. ■Case 704. ▲Case 646. ⌶Case 703. ♦Case 680. ‡Case 707.

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS
COMPLEMENTARY CMOS LISTING CONTINUED ON FOLLOWING PAGE

McMOS™ MC 14000 SERIES COMPLEMENTARY MOS (CONT'D)

Motorola Type	Function	Suffix	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Suffix	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Suffix	Net Each, Lots of 1-99	Net Each, Lots of 100-999
C14553B	3-digit BCD counter	-AL	$ 8.68	$ 8.27	-CL	$ 7.52	$ 7.16	-CP	$ 5.79	$ 5.52
C14554B	2 x 2 bit par. bin. multiplier	-AL	5.47	5.21	-CL	4.75	4.52	-CP	3.65	3.48
C14555B	Dual binary to 1-of-4 decoder	-AL	2.52	2.40	-CL	2.19	2.08	-CP	1.69	1.61
C14556B	Dual bin. to 1-of-4 dec. inv.	-AL	2.52	2.40	-CL	2.19	2.08	-CP	1.69	1.61
C14557B	1-to-64 bit shift register	-AL	8.68	8.27	-CL	7.52	7.16	-CP	5.79	5.52
C14558B	BCD-to-7-segment decoder	-AL	3.89	3.70	-CL	3.37	3.21	-CP	2.60	2.47
C14559B	Succ. approximation register	-AL	16.60	15.81	-CL	14.38	13.70	-CP	11.07	10.54
C14560B	NBCD adder	-AL	8.36	7.96	-CL	7.24	6.90	-CP	5.57	5.31
C14561B	9's complementer	-AL†	3.45	3.28	-CL†	2.99	2.85	-CP^	2.30	2.19
C14562B	128-bit static shift register	-AL†	11.13	10.60	-CL†	9.65	9.19	-CP^	7.42	7.07
C14566B	Ind. time base generator	-AL	5.23	4.99	-CL	4.53	4.32	-CP	3.49	3.32
C14568B	Phase comp./programmable counte	-AL	9.52	9.06	-CL	8.26	7.86	-CP	6.35	6.05
C14569B	Dual prog. counter	-AL	5.46	5.20	-CL	4.72	4.50	-CP	3.64	3.46
C14572UB	Hex gate	-AL	1.70	1.62	-CL	1.48	1.41	-CP	1.14	1.09
C14580B	4 x 4 multiport register	-AL§	12.76	12.15	-CL§	10.53	10.03	-CP*	8.51	8.10
C14581B	4-bit arith. logic unit	-AL§	8.46	8.06	-CL§	7.33	6.98	-CP*	5.65	5.38
C14582B	Lookahead carry block	-AL	3.02	2.88	-CL	2.61	2.49	-CP	2.01	1.91
C14583B	Schmitt trigger	-AL	3.72	3.55	-CL	3.23	3.07	-CP	2.48	2.36
C14584B	Hex Schmitt trigger	-AL†	1.88	1.79	-CL†	1.63	1.55	-CP^	1.25	1.19
C14585B	4-bit magnitude comparator	-AL	3.96	3.77	-CL	3.43	3.27	-CP	2.64	2.51
C14597B	8-bit latch with ctr.	-AL	8.18	7.79	-CL	7.10	6.76	-CP	5.46	5.20
C14598B	8-bit address. latch	-AL	9.52	9.06	-CL	8.26	7.86	-CP	6.35	6.05

Minimum order quantity of 12. †Case 632. ‡Case 716. §Case 715. #Case 698. *Case 709. ■Case 704. ^Case 646. ΙCase 703. ♦Case 680. Case 707.

MTTL III™ MC3000 AND MC3100 SERIES

signed for general purpose digital applications. High operating speed (30–50 MHz clock rate), good external noise immunity, high -out and capability of driving lines up to 600 pF capacitance. Temperature range 0° C to +75° C (MC3000 Series), −55° C to 25° C (MC3100 Series). V_{CC} = 5.0 V; T_A = 25° C. L suffix denotes dual inline ceramic pkg. (Case 632, TO-116), F flat ceramic pkg. ase 607, TO-86) and P dual inline plastic pkg. (Case 646, TO-116).

Function	Typical t_{pd} ns	Typical P_D mW	Motorola Type	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Motorola Type	Net Each, Lots of 1-9	Net Each, Lots of 10-49
ad 2-input AND gate	9.0	112	MC3001L	$4.08	$3.88	MC3101L	$5.10	$4.86
ad 2-input NOR gate	6.0	122	MC3002L	4.22	4.02	MC3102L	5.25	5.00
ad 2-input OR gate	9.0	150	.....	.....	.....	MC3103L	5.25	5.00
put NAND gate	8.0	22	MC3007L	4.08	3.88	MC3107L	5.10	4.86
ad 2-input exclusive-OR gate	14.0	100	MC3015L	3.96	3.77	MC3115L	4.99	4.75
ad 2-input exclusive-NOR gate	14.0	85	MC3021L	4.87	4.64	MC3121L	6.16	5.87
al 4-input NAND power gate	6.0	70	MC3022L	4.87	4.64	MC3122L	6.16	5.87
al 4-input AND power gate	9.0	90	MC3025L	4.08	3.88	MC3125L	5.10	4.86
al 3-input 3-output AND series erminated line driver	9.0	56	MC3026L	4.08	3.88	MC3126L	5.10	4.86
al 3-input, 3-output AND erminated line driver	9.0	56	MC3028L	4.08	3.88	MC3128L	5.10	4.86
al 3-input 3-output NAND series erminated line driver	6.0	44	MC3029L	4.08	3.88	MC3129L	5.10	4.86
D input J-K flip-flop	§	50	MC3051L	5.25	5.00	MC3151L	6.28	5.98
D input JJ-KK flip-flop	‡	75	MC3052L	5.60	5.34	MC3152L	7.04	6.70
al type D flip-flop	#	120	MC3060L	5.25	5.00	MC3160L	6.28	5.98
al J-K flip-flop	§	100	MC3061L	5.25	5.00	MC3161L	6.28	5.98
al J-K flip-flop	§	100	MC3062L	5.25	5.00	MC3162L	6.28	5.98

t_{pd1} = 0.4 ns; Δt_{pd0} = 0.05 ns. †Δt_{pd} = 1.0 ns. ‡f = 40 MHz. §f = 50 MHz. #f = 30 MHz.

SERIES MC3000 P PACKAGES

Motorola Type	P Suffix Net Each, Lots of 1-9	P Suffix Net Each, Lots of 10-49
MC3001	$2.98	$2.84
MC3002	2.98	2.84
MC3007	2.98	2.84

Motorola Type	P Suffix Net Each, Lots of 1-9	P Suffix Net Each, Lots of 10-49
MC3015	$2.86	$2.72
MC3021	3.56	3.39
MC3022	3.56	3.39
MC3025	2.98	2.84

Motorola Type	P Suffix Net Each, Lots of 1-9	P Suffix Net Each, Lots of 10-49
MC3026	$2.98	$2.84
MC3028	2.98	2.84
MC3029	2.98	2.84
MC3051	4.00	3.81
MC3052	4.60	4.39
MC3060	4.99	4.75
MC3061	4.00	3.81
MC3062	4.00	3.81

SERIES MC3100 F PACKAGES

Motorola Type	Net Each, Lots of 1-9
MC3101F	$8.15
MC3102F	8.15
MC3103F	8.15
MC3107F	8.15

Motorola Type	Net Each, Lots of 1-9
MC3115F	$8.08
MC3121F	8.27

Motorola Type	Net Each, Lots of 1-9
MC3122F	$8.27
MC3125F	8.15
MC3126F	8.15
MC3128F	8.15
MC3129F	8.15

Motorola Type	Net Each, Lots of 1-9
MC3151F	$8.36
MC3152F	8.58
MC3160F	8.36
MC3161F	8.36
MC3162F	8.36

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

MTTL™ SN54LS AND SN74LS SERIES

The LS Low power Schottky TTL family combines a current and power reduction by a factor of 5 (compared to Series 7400 TTL with anti-saturation Schottky diode clamping and advanced processing, using shallower diffusions and higher sheet resistivity, to achieve circuit performance better than conventional TTL.

Function	Motorola Number SN54LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Motorola Number SN74LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Motorola Number SN74LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49
Quad 2-input NAND gate	00J	$1.17	$1.12	00J	$0.85	$0.81	00N	$0.59	$0.56
Quad 2-input NAND gate w/OC	01J	1.17	1.12	01J	.85	.81	01N	.59	.56
Quad 2-input NOR gate	02J	1.17	1.12	02J	.85	.81	02N	.59	.56
Quad 2-input NOR gate w/OC	03J	1.17	1.12	03J	.85	.81	03N	.59	.56
Hex inverter	04J	1.19	1.13	04J	.88	.84	04N	.62	.59
Hex inverter w/OC	05J	1.19	1.13	05J	.88	.84	05N	.62	.59
Quad 2-input AND gate	08J	1.17	1.12	08J	.85	.81	08N	.59	.56
Quad 2-input AND gate w/OC	09J	1.17	1.12	09J	.85	.81	09N	.59	.56
Triple 3-input NAND gate	10J	1.19	1.13	10J	.88	.84	10N	.62	.59
Triple 3-input AND gate	11J	1.19	1.13	11J	.88	.84	11N	.62	.59
Triple 3-input NAND gate w/OC	12J	1.19	1.13	12J	.88	.84	12N	.62	.59
Dual 4-input Schmitt trigger	13J	1.48	1.41	13J	1.09	1.03	13N	.78	.74
Hex Schmitt trigger	14J	1.77	1.69	14J	1.31	1.24	14N	.98	.94
Triple 3-input AND gate w/OC	15J	1.19	1.13	15J	.88	.84	15N	.62	.59
Dual 4-input NAND gate	20J	1.17	1.12	20J	.85	.81	20N	.59	.56
Dual 4-input AND gate	21J	1.17	1.12	21J	.85	.81	21N	.59	.56
Dual 4-input NAND gate w/OC	22J	1.17	1.12	22J	.85	.81	22N	.59	.56
Quad 2-input NAND gate, high voltage	26J	1.19	1.13	26J	.88	.84	26N	.62	.59
Triple 3-input NOR gate	27J	1.19	1.13	27J	.88	.84	27N	.62	.59
Quad 2-input NOR buffer	28J	1.19	1.13	28J	.88	.84	28N	.62	.59
8-input NAND gate	30J	1.17	1.12	30J	.85	.81	30N	.59	.56
Quad 2-input OR gate	32J	1.17	1.12	32J	.85	.81	32N	.59	.56
Quad 2-input NOR gate w/OC	33J	1.19	1.13	33J	.88	.84	33N	.62	.59
Quad 2-input NAND buffer	37J	1.19	1.13	37J	.88	.84	37N	.62	.59
Quad 2-input NAND buffer w/OC	38J	1.19	1.13	38J	.88	.84	38N	.62	.59
Dual 4-input NAND buffer	40J	1.19	1.13	40J	.88	.84	40N	.62	.59
1-of-10 decoder	42J	2.23	2.12	42J	1.64	1.57	42N	1.22	1.16
Dual AND-OR-INVERT gate	51J	1.17	1.12	51J	.85	.81	51N	.59	.56
2-3-3-2-input AND-OR-INVERT gate	54J	1.17	1.12	54J	.85	.81	54N	.59	.56
2-wide, 4-input AND-OR-INVERT gate	55J	1.17	1.12	55J	.85	.81	55N	.59	.56
Dual J-K flip-flop	73AJ	1.61	1.54	73AJ	1.19	1.13	73AN	.88	.84
Dual D type flip-flop	74AJ	1.58	1.51	74AJ	1.17	1.12	74AN	.85	.81
4-bit bistable latch	75J	1.98	1.89	75J	1.45	1.38	75N	1.04	.99
Dual J-K flip-flop	76AJ	1.67	1.59	76AJ	1.22	1.16	76AN	.91	.87
4-bit bistable latch	77J	1.98	1.89	77J	1.45	1.38	77N	1.04	.99
Dual J-K flip-flop w/preset	78AJ	1.70	1.62	78AJ	1.25	1.19	78AN	.92	.88
4-bit full adder	83AJ	2.33	2.22	83AJ	1.72	1.63	83AN	1.31	1.24
4-bit magnitude comparator	85J	2.43	2.32	85J	1.80	1.72	85N	1.38	1.31
Quad Exclusive-OR gate	86J	1.44	1.37	86J	1.06	1.01	86N	.78	.74
Decade counter	90J	1.80	1.72	90J	1.32	1.26	90N	.98	.94
Divide-by-12 counter	92J	1.80	1.72	92J	1.32	1.26	92N	.98	.94
4-bit binary counter	93J	1.80	1.72	93J	1.32	1.26	93N	.98	.94
4-bit shift register	95BJ	2.51	2.39	95BJ	1.85	1.76	95BN	1.44	1.37
Dual J-K flip-flop w/enable	107AJ	1.61	1.54	107AJ	1.19	1.13	107AN	.91	.87
Dual J-K edge-triggered flip-flop	109AJ	1.57	1.49	109AJ	1.14	1.09	109AN	.85	.81
Dual J-K edge-triggered flip-flop	112AJ	1.61	1.54	112AJ	1.19	1.13	112AN	.91	.87
Dual J-K edge-triggered flip-flop	113AJ	1.61	1.54	113AJ	1.19	1.13	113AN	.91	.87
Dual J-K edge-triggered flip-flop	114AJ	1.61	1.54	114AJ	1.19	1.13	114AN	.91	.87
Dual retriggerable monostable multivibrator	122J	2.11	2.01	122J	1.57	1.49	122N	1.14	1.09
Dual retriggerable monostable multivibrator	123J	2.83	2.70	123J	2.10	2.00	123N	1.41	1.34
Quad 3-state buffer, low enable	125AJ	2.04	1.94	125AJ	1.51	1.44	125AN	1.09	1.03
Quad 3-state buffer, high enable	126AJ	2.04	1.94	126AJ	1.51	1.44	126AN	1.09	1.03
Input Schmitt trigger	132J	1.88	1.79	132J	1.38	1.31	132N	1.04	.99
13-input NAND gate	133J	1.44	1.37	133J	1.06	1.01	133N	.78	.74
Quad Exclusive-OR gate w/OC	136J	1.44	1.37	136J	1.06	1.01	136N	.78	.74
1-of-8 decoder/demultiplexer	138J	2.11	2.01	138J	1.57	1.49	138N	1.12	1.06
Dual 1-of-4 decoder/demultiplexer	139J	2.11	2.01	139J	1.57	1.49	139N	1.12	1.06
8-input multiplexer	151J	1.72	1.63	151J	1.28	1.22	151N	.95	.91
Dual 4-input multiplexer	153J	1.72	1.63	153J	1.28	1.22	153N	.95	.91
Dual 1-of-4 decoder	155J	2.20	2.10	155J	1.61	1.54	155N	1.22	1.16
Dual 1-of-4 decoder w/OC	156J	2.20	2.10	156J	1.61	1.54	156N	1.22	1.16
Quad 2-input multiplexer (non-inv.)	157J	1.72	1.63	157J	1.28	1.22	157N	.95	.91
Quad 2-input multiplexer (inv.)	158J	1.72	1.63	158J	1.28	1.22	158N	.95	.91
BCD decade counter, asynch. reset	160AJ	2.23	2.12	160AJ	1.64	1.57	160AN	1.31	1.24
4-bit binary counter, asynch. reset	161AJ	2.20	2.10	161AJ	1.61	1.54	161AN	1.28	1.22
BCD decade counter, synch. reset	162AJ	2.23	2.12	162AJ	1.64	1.57	162AN	1.31	1.24
4-bit binary counter, synch. reset	163AJ	2.23	2.12	163AJ	1.64	1.57	163AN	1.31	1.24
8-bit serial in/parallel out shift register	164J	2.20	2.10	164J	1.61	1.54	164N	1.28	1.22
8-bit parallel in/serial out shift register	165J	2.99	2.85	165J	2.20	2.10	165N	1.77	1.69
8-bit parallel in/serial out shift register	166J	4.08	3.88	166J	3.02	2.88	166N	2.60	2.47
Up/down decade counter	168J	4.84	4.61	168J	3.56	3.39	168N	3.17	3.02
Up/down decade counter	169J	4.84	4.61	169J	3.56	3.39	169N	3.17	3.02
4 x 4 register file w/OC	170J	4.44	4.23	170J	3.28	3.13	170N	2.86	2.72
4-bit D register, 3-state	173J	2.20	2.10	173J	1.61	1.54	173N	1.28	1.22
Hex D flip-flop w/clear	174J	1.91	1.82	174J	1.41	1.34	174N	1.09	1.03
Quad D flip-flop w/clear	175J	1.91	1.82	175J	1.41	1.34	175N	1.09	1.03
4-bit arithmetic logic unit	181J	8.70	8.28	181J	5.79	5.52	181N	3.92	3.73
Up/down binary counter	190J	2.51	2.39	190J	1.85	1.76	190N	1.44	1.37
Up/down binary counter	191J	2.51	2.39	191J	1.85	1.76	191N	1.44	1.37
Up/down decade counter	192J	2.51	2.39	192J	1.85	1.76	192N	1.44	1.37
Up/down binary counter	193J	2.64	2.51	193J	1.97	1.87	193N	1.54	1.47
4-bit shift register	194AJ	2.51	2.39	194AJ	1.85	1.76	194AN	1.44	1.37
4-bit shift register	195AJ	2.51	2.39	195AJ	1.85	1.76	195AN	1.44	1.37

LISTING CONTINUED ON FOLLOWING PAGE

MTTL™ SN54LS AND SN74LS SERIES (CONT'D)

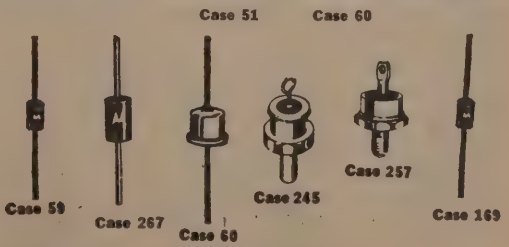
Function	Motorola Number SN54LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Motorola Number SN74LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49	Motorola Number SN74LS-	Net Each, Lots of 1-9	Net Each, Lots of 10-49
ecade counter	196J	$2.76	$2.63	196J	$2.04	$1.94	196N	$1.70	$1.62
bit binary counter	197J	2.64	2.51	197J	1.97	1.87	197N	1.54	1.47
ual one-shot multivibrator	221J	2.80	2.67	221J	2.07	1.97	221N	1.64	1.57
tal inv. bus/line driver	240J	5.07	4.83	240J	3.75	3.58	240N	2.30	2.19
tal bus/line driver, 3-state	241J	5.07	4.83	241J	3.75	3.58	241N	2.30	2.19
iad bus transceiver, inverting	242J	3.70	3.52	242J	2.73	2.60	242N	2.30	2.19
iad bus transceiver, non-inverting	243J	3.70	3.52	243J	2.73	2.60	243N	2.30	2.19
tal 3-state driver, non-inverting	244J	5.07	4.83	244J	3.75	3.58	244N	2.30	2.19
tal bus transceiver, non-inverting	245J	5.97	5.68	245J	4.41	4.20	245N	2.96	2.82
input multiplexer, 3-state	251J	1.77	1.69	251J	1.31	1.24	251N	.98	.94
ual 4-input multiplexer, 3-state	253J	1.77	1.69	253J	1.31	1.24	253N	.98	.94
ual 4-input add latch	256J	3.43	3.27	256J	2.54	2.42	256N	2.11	2.01
iad 2-input multiplexer, 3-state	257AJ	1.77	1.69	257AJ	1.31	1.24	257AN	.98	.94
iad 2-input multiplexer, 3-state	258AJ	1.77	1.69	258AJ	1.31	1.24	258AN	.98	.94
bit addressable latch	259J	3.02	2.88	259J	2.23	2.12	259N	1.80	1.72
ual 5-input NOR gate, 3-state	260J	1.44	1.37	260J	1.06	1.01	260N	.78	.74
iad Exclusive-NOR gate w/OC	266J	1.44	1.37	266J	1.06	1.01	266N	.78	.74
tal flip-flop w/MR	273J	5.07	4.83	273J	3.75	3.58	273N	2.30	2.19
iad set-reset latch	279J	1.77	1.69	279J	1.31	1.24	279N	.92	.88
bit full adder	283J	2.33	2.22	283J	1.72	1.63	283N	1.31	1.24
ecade counter	290J	2.38	2.26	290J	1.75	1.66	290N	1.32	1.26
bit binary counter	293J	2.43	2.32	293J	1.80	1.72	293N	1.38	1.31
bit shift register, 3-state	295AJ	2.70	2.57	295AJ	1.98	1.89	295AN	1.61	1.54
iad 2-input multiplexer with output latches	298J	2.33	2.22	298J	1.72	1.63	298N	1.31	1.24
ex buffer, 3-state, common enable	365AJ	2.01	1.91	365AJ	1.48	1.41	365AN	1.09	1.03
ex inverter, 3-state, common enable	366AJ	2.01	1.91	366AJ	1.48	1.41	366AN	1.09	1.03
ex buffer, 4- and 2-bit, 3-state	367AJ	2.01	1.91	367AJ	1.48	1.41	367AN	1.09	1.03
ex buffer, 4- and 2-bit, 3-state	367J	2.95	2.81	....	....	....	....	....	....
ex inverter, 4- and 2-bit, 3-state	368AJ	2.01	1.91	368AJ	1.48	1.41	368AN	1.09	1.03
tal transparent latch	373J	5.15	4.90	373J	3.81	3.63	373N	2.49	2.37
tal D flip-flop, 3-state	374J	5.15	4.90	374J	3.81	3.63	374N	2.49	2.37
iad latch	375J	1.98	1.89	375J	1.45	1.38	375N	1.04	.99
tal D flip-flop with enable	377J	5.07	4.83	377J	3.75	3.58	377N	2.30	2.19
ex D flip-flop with enable	378J	2.33	2.22	378J	1.72	1.63	378N	1.35	1.29
bit D flip-flop with enable	379J	2.33	2.22	379J	1.72	1.63	379N	1.35	1.29
iad adder/subtractor	385J	10.46	9.96	385J	6.98	6.65	385N	5.40	5.14
iad Exclusive-OR gate	386J	1.44	1.37	386J	1.06	1.01	386N	.78	.74
ual decade counter	390J	3.33	3.17	390J	2.46	2.35	390N	2.04	1.94
ual 4-bit binary counter	393J	3.15	3.00	393J	2.33	2.22	393N	1.91	1.82
ift register, 3-state	395J	2.99	2.85	395J	2.20	2.10	395N	1.77	1.69
iad 2-input multiplexer with output regulator	398J	6.89	6.56	398J	4.60	4.39	398N	3.26	3.10
398 with Q and Q outputs	399J	3.04	2.89	399J	2.24	2.14	399N	1.88	1.79
ual decade counter	490J	5.37	5.11	490J	3.96	3.77	490N	3.55	3.38
ecade up/down counter, 3-state	568J	11.07	10.54	568J	7.38	7.03	568N	6.06	5.77
nary up/down counter, 3-state	569J	11.07	10.54	568J	7.38	7.03	569N	6.06	5.77
tal inverting bus transceiver	640J	5.84	5.56	640J	4.34	4.13	640N	3.02	2.88
tal non-inverting bus transceiver	641J	5.84	5.56	641J	4.34	4.13	641N	3.02	2.88
tal inverting bus transceiver	642J	5.84	5.56	642J	4.34	4.13	642N	3.02	2.88
tal true/inverting bus transceiver	643J	5.84	5.56	643J	4.34	4.13	643N	3.02	2.88
tal true/inverting bus transceiver	644J	5.84	5.56	644J	4.34	4.13	644N	3.02	2.88
tal non-inverting bus transceiver	645J	5.67	5.40	645J	4.21	4.01	645N	2.76	2.63
x 4 register file, 3-state	670J	5.15	4.90	670J	3.81	3.63	670N	3.39	3.23

HOT-CARRIER POWER RECTIFIERS

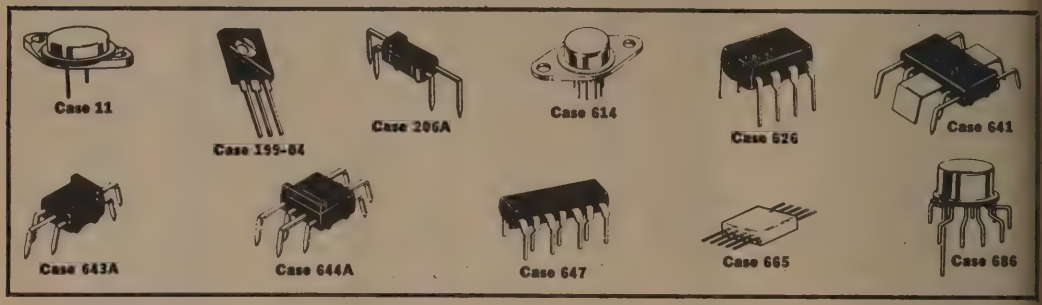
ilize Schottky barrier principle in a large area metal-to-silicon ode. Multi-Cell combinations providing increased capability ailable on request.

Motorola Type	Case	V_{RRM} V	I_O at T_C A	°C	V_F at I_F V	A	Net Ea., Lots 1-9	10-49
BR020	51	20	....	..	0.5	....	$ 5.10	$ 4.86
5817	59	20	1.0	..	0.6	1.0	1.40	1.33
5818	59	30	1.0	..	0.6	1.0	1.65	1.57
5819	59	40	1.0	..	0.6	1.0	2.79	2.66
BR120P	59	20	1.0	..	0.65	1.0	1.15	1.09
BR130P	59	30	1.0	..	0.65	1.0	1.40	1.33
BR140P	59	40	1.0	..	0.65	1.0	2.03	1.93
5820	267	20	3.0	..	0.53	3.0	2.58	2.46
5821	267	30	3.0	..	0.53	3.0	3.02	2.87
5822	267	40	3.0	..	0.53	3.0	4.12	3.92
BR320P	267	20	3.0	..	0.6	3.0	2.17	2.06
BR330P	267	30	3.0	..	0.6	3.0	2.58	2.46
BR340P	267	40	3.0	..	0.6	3.0	3.70	3.53
5823	60	20	5.0	..	0.38	5.0	6.42	6.12
5824	60	30	5.0	..	0.38	5.0	6.98	6.65
5825	60	40	5.0	..	0.38	5.0	8.24	7.85
BR320M	60	20	....	..	0.45	5.0	5.45	5.19
BR330M	60	30	....	..	0.45	5.0	6.01	5.72
BR335M	60	35	....	..	0.45	5.0	6.49	6.19
BR340M	60	40	....	..	0.45	5.0	6.98	6.65
5826	245	20	15	85	0.5	15	6.42	6.12
5827	245	30	15	85	0.5	15	6.98	6.65
5828	245	40	15	85	0.5	15	8.24	7.85
BR1520	245	20	15	80	0.55	15	5.45	5.19
BR1530	245	30	15	80	0.55	15	6.01	5.72
BR1535	245	35	15	80	0.55	15	6.49	6.19
BR1540	245	40	15	80	0.55	15	6.98	6.65
5829	245	20	25	85	0.48	25	7.68	7.32
5830	245	30	25	85	0.48	25	8.38	7.98
5831	245	40	25	85	0.48	25	9.92	9.44
BR2520	245	20	25	80	0.55	25	6.49	6.19
BR2530	245	30	25	80	0.55	25	7.12	6.78
BR2535	245	35	25	80	0.55	25	7.75	7.38
BR2540	245	40	25	80	0.55	25	8.38	7.98
6095	245	30	....	70	0.86	78.5	6.98	6.65
6096	245	40	....	70	0.86	78.5	8.38	7.98

Motorola Type	Case	V_{RRff} V	I_O at T_C A	°C	V– at I– V	A	Net Ea., Lots 1-9	10-49
MBR3520	245	20	....	90	0.7	78.5	$ 7.12	$ 6.78
SD41	245	30	....	90	0.7	78.5	8.94	8.51
MBR3535	245	35	....	90	0.7	78.5	8.03	7.65
MBR3545	245	45	....	90	0.7	78.5	8.94	8.51
1N5832	257	20	40	75	0.59	40	9.64	9.18
1N5833	257	30	40	75	0.59	40	10.68	10.18
1N5834	257	40	40	75	0.59	40	11.73	11.17
MBR4020	257	20	40	70	0.63	40	8.10	7.71
MBR4030	257	30	40	70	0.63	40	9.15	8.71
MBR4035	257	35	40	70	0.63	40	9.50	9.04
MBR4040	257	40	40	70	0.63	40	9.92	9.94
1N6097	257	30	....	70	0.86	157	9.57	9.11
1N6098	257	40	....	70	0.86	157	10.54	10.04
MBR6020	257	20	....	90	0.8	157	8.94	8.51
SD51	257	30	....	90	0.8	157	11.17	10.64
MBR6035	257	35	....	90	0.8	157	9.92	9.44
MBR6045	257	45	....	90	0.8	157	11.17	10.64
MBR7520	257	20	....	90	0.9	220	11.17	10.64
MBR7530	257	30	....	90	0.9	220	11.80	11.24
MBR7535	257	35	....	90	0.9	220	12.71	12.10
MBR7540	257	40	....	90	0.9	220	13.62	12.97
MBR7545	257	45	....	90	0.9	220	14.52	13.83



MIL-M-38510 MICROCIRCUITS AVAILABLE ON MANY DEVICE TYPES



OPERATIONAL AMPLIFIERS

Non-encapsulated chip, flip-chip and beam-lead devices; flat ceramic beam-lead devices are also available. Types, data and pricing on request. Listed in order of increasing input bias current (I_{IB}) within temperature range.

NON-COMPENSATED

Military temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
MC1539G	601	High slew rate	0.5	50K	4.2	$7.54	$7.18	$6.82
MC1709G	601	General purpose	0.5	25K	0.3	2.10	2.00	1.90
MC1748G	601	General purpose	0.5	50K	0.5	1.96	1.86	1.77
MC1709AG	601	High performance	0.6	25K	0.5	2.56	2.43	2.31
MC1712G	601	Wideband DC amplifier	5.0	2.5K	1.5	★	★	★

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
LM301AN	626	General purpose	0.25	25K	0.5	$0.69	$0.65	$0.62
MC1748CG	601	General purpose	0.5	20K	0.5	1.26	1.20	1.14
MC1439G	601	High slew rate	1.0	15K	4.2	4.99	4.75	4.51
MC1709CG	601	General purpose	1.5	15K	0.3	1.36	1.29	1.23
LM308N	626	Precision	7.0	25K	0.3	1.15	1.09	1.04
LM308AN	626	Precision	7.0	80K	0.3	4.54	4.32	4.11
MC1712CG	601	Wideband DC amplifier	7.5	2K	1.5	4.68	4.46	4.23

INTERNALLY COMPENSATED

Military temperature range −55°C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
MC35001BG	601	TRIMFET input	0.0001	50K	13	$ 7.65	$ 7.29	$ 6.92
LF155H	601	FET input	0.0001	50K	5	7.99	7.61	7.23
LF156H	601	FET input	0.0001	50K	15	7.99	7.61	7.23
LF157H	601	FET input	0.0001	50K	75	7.99	7.61	7.23
MC1776G	601	μPower programmable	0.0075	200K	0.2	12.76	12.16	11.55
MC1556G	601	High performance	0.015	100K	2.5	2.85	2.71	2.58
MC1536G	601	High voltage	0.02	100K	2.0	25.40	24.19	22.98
MC1733G	603	Wideband diff. video amp.	0.2	90	.....	2.85	2.71	2.58
MC1741G	601	General purpose	0.5	50K	0.5	2.10	2.00	1.90
MC1741NG	601	Low noise	0.5	50K	0.5	5.40	5.15	4.89
MC1741SG	601	High slew rate	0.5	50K	10	6.37	6.07	5.76

Industrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
MC34001AG	601	TRIMFET input	0.0001	50K	13	$4.68	$4.46	$4.23
LF355H	601	FET input	0.0002	50K	5	2.58	2.46	2.34
LF356H	601	FET input	0.0002	50K	15	2.58	2.46	2.34
LF357H	601	FET input	0.0002	50K	75	2.58	2.46	2.34
MC34001G	601	TRIMFET input	0.0002	25K	13	1.49	1.42	1.35
MC1776CG	601	μPower programmable	0.003	100K	0.2	4.65	4.43	4.21
MC1456G	601	High performance	0.03	70K	2.5	2.25	2.14	2.03
MC1436G	601	High voltage	0.04	70K	2.0	10.39	9.90	9.40
MC3476G	601	μPower programmable	0.05	50K	1.0	3.90	3.71	3.53
LM307H	601	General purpose	0.25	25K	0.5	1.49	1.42	1.35
MC1741CG	601	General purpose	0.5	20K	0.5	1.15	1.09	1.04
MC1741NCG	601	Low noise	0.5	20K	0.5	2.88	2.74	2.60
MC1741SCG	601	High slew rate	0.5	20K	10	3.94	3.75	3.56
MC1733CG	601	Video amplifier	30	80	.....	2.10	2.00	1.90

★Prices on request.

Same as listed at the left, except additional case types that are available.

Motorola Type	Case	Net Each, Lots of 1-9	10-49	50-99
LM301AH	601	$1.36	$1.29	$1.23
LM308AH	601	6.16	5.87	5.57
LM308H	601	2.14	2.04	1.93
MC1436CG	601	6.19	5.89	5.60
MC1439L	632	4.62	4.40	4.18
MC1439P1	626	3.97	3.78	3.59
MC1439P2	626	4.12	3.92	3.73
MC1456CG	601	1.96	1.86	1.77
MC1456CL	632	2.82	2.69	2.55
MC1456L	632	3.27	3.11	2.96
MC1456P1	626	1.96	1.86	1.77
MC1456U	693	3.27	3.11	2.96
MC1539L	632	7.18	6.84	6.49
MC1556L	632	3.13	2.98	2.83
MC1556U	693	3.13	2.98	2.83
MC1709AL	632	3.84	3.66	3.48
MC1709CL	632	1.44	1.37	1.30
MC1709CP1	626	1.02	.97	.92
MC1709CP2	626	1.08	1.02	.97
MC1709L	632	2.04	1.94	1.85
MC1712CL	632	5.82	5.55	5.27
MC1712L	632	★	★	★
MC1733L	632	3.39	3.23	3.07
MC1741CL	632	1.44	1.37	1.30
MC1741CU	693	1.20	1.14	1.09
MC1741L	632	2.19	2.09	1.98
MC1741NCL	632	2.70	2.57	2.44
MC1741NCP1	626	2.10	2.00	1.90
MC1741NCP2	626	2.51	2.39	2.27
MC1741NCU	693	2.82	2.69	2.55
MC1741NL	632	5.35	5.09	4.84
MC1741NU	693	5.35	5.09	4.84
MC1741SCP1	626	2.93	2.79	2.65
MC1741U	693	2.35	2.23	2.12
MC1748CP1	626	.78	.75	.71
MC1776CP1	626	4.26	4.06	3.85
MC3476P1	626	3.18	3.03	2.88
LM307N	626	.87	.83	.78

SEE OTHER MOTOROLA IC PAGES FOR CASE ILLUSTRATIONS

DUAL OPERATIONAL AMPLIFIERS

sted in increasing order of input bias current (I_{IB}) within temperature range.

INTERNALLY COMPENSATED

ilitary temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
M158H	601	Single supply	0.15	50K	0.6	$5.56	$5.29	$5.03
C1558G	601	Dual MC1741	0.5	50K	0.8	2.85	2.71	2.58
C1558NG	601	Low noise	0.5	50K	0.8	8.56	8.15	7.75
C1558SG	601	High slew rate	0.5	50K	10	8.59	8.18	7.77
C1747G	601	Dual MC1741	0.5	50K	0.5	3.48	3.31	3.15
C3558G	601	Single supply	0.5	50K	0.6	6.01	5.72	5.43
C4558G	601	High frequency	0.5	50K	1.5	3.90	3.71	3.53

dustrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
M358H	601	Single supply	0.25	25K	0.6	$1.54	$1.46	$1.39
C1458G	601	Dual MC1741	0.5	20K	0.8	1.65	1.57	1.47
C1458NG	601	Low noise	0.5	20K	0.8	4.05	3.86	3.66
C1458SG	601	High slew rate	0.5	20K	10	4.99	4.75	4.51
C1747CG	603	Dual MC1741	0.5	25K	0.5	1.75	1.66	1.58
C3458G	601	Single supply low distortion	0.5	20K	0.6	2.79	2.66	2.53
C4558CG	601	Single supply	0.5	20K	1.5	1.65	1.57	1.49

NON-COMPENSATED

ilitary temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
C1537L	632	Dual MC1709	0.5	25K	0.25	$4.44	$4.23	$4.02

dustrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
C1437L	632	Dual MC1709	1.5	15K	0.25	$3.99	$3.80	$3.61

Same as listed at the left, except additional case types that are available.

Motorola Type	Case	Net Each, Lots of 1-9	10-49	50-99
MC1437P	626	$3.14	$2.99	$2.84
MC1458L	632	1.59	1.52	1.44
MC1458NL	632	3.99	3.80	3.61
MC1458NP1	626	3.35	3.19	3.03
MC1458NP2	626	3.66	3.49	3.31
MC1458NU	693	3.76	3.58	3.40
MC1458P1	626	.94	.89	.85
MC1458SL	632	4.93	4.70	4.46
MC1458SP1	626	3.35	3.19	3.03
MC1458SP2	626	3.63	3.46	3.29
MC1458SU	693	4.75	4.52	4.30
MC1458U	693	1.59	1.52	1.44
MC1558NL	632	8.49	8.09	7.68
MC1558NU	693	7.44	7.09	6.74
MC1558L	632	2.35	2.23	2.12
MC1558SL	632	8.53	8.13	7.72
MC1558SU	693	6.42	6.12	5.81
MC1558U	693	2.18	2.08	1.97
MC1747CL	632	1.77	1.69	1.61
MC1747CP2	626	1.45	1.38	1.31
MC1747L	632	3.42	3.26	3.10
MC3558U	693	5.67	5.40	5.13
MC4558U	693	3.87	3.68	3.50
MC4558CP1	626	1.12	1.06	1.01
MC4558CU	693	1.62	1.54	1.47
MC4558ACP1	626	3.35	3.19	3.03
LM158J	693	5.53	5.27	5.00
LM358N	626	1.17	1.12	1.06
LM358J	693	2.07	1.97	1.87

QUAD OPERATIONAL AMPLIFIERS

INTERNALLY COMPENSATED

ilitary temperature range −55° C to +125° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
M124J	632	Quad MC1741	0.15	50K	0.6	$ 5.20	$ 4.95	$ 4.70
C3503L	632	General purpose	0.5	50K	0.6	18.62	17.73	16.84
C4741L	632	Quad MC1741	0.5	50K	0.5	8.49	8.09	7.68

dustrial temperature range 0° C to +70° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
M324J	632	Low power	0.5	20K	0.6	$2.26	$2.16	$2.05
C3401L	632	Low cost	0.3	1K	0.6	2.28	2.17	2.06
C3403L	632	No crossover distortion	0.5	20K	0.6	6.09	5.80	5.51
C4741CL	632	Quad MC1741	0.5	20K	0.5	4.75	4.52	4.30

tomotive temperature range −40° C to +85° C.

Motorola Type	Case	Description	Max. I_{IB} μA	Min. A_{vol} V/V	S.R. V/μs Typ.	Net Each, Lots of 1-9	10-49	50-99
C3301P	646	Quad mirror gain	0.3	1K	0.6	$1.23	$1.17	$1.11
C3303L	632	Differential gen. purpose	0.5	20K	0.6	6.34	6.04	5.74
M2902N	646	Low power differential	0.5	.....	0.6	1.96	1.86	1.77

Same as listed at the left, except additional case types.

Motorola Type	Case	Net Each, Lots of 1-9	10-49	50-99
MC3303P	646	$5.80	$5.52	$5.24
MC3401P	646	1.20	1.14	1.09
MC3403P	646	1.68	1.60	1.52
MC4741CP	646	1.96	1.86	1.77
LM324N	646	1.66	1.58	1.50

HIGH FREQUENCY AMPLIFIERS

mperature −55° C to +75° C.

Motorola Type	Case	Bandwidth at Av MHz	dB	V_{OS} p-p V	Net Each, Lots of 1-9	10-49	50-99
C1545G†	602A				$14.86	$14.15	$13.44
C1445G†‡	602A				4.20	4.00	3.80
C1550G	602B				2.25	2.14	2.03
C1552G	603B	40 35	34 40	4.2	16.21	15.44	14.67
C1553G	603B	35 15	46 52	4.2	16.21	15.44	14.67
C1590G	601	100 60	4 25	7.0	9.76	9.30	8.83
C1733G	603-02	40	52	4.0	2.85	2.71	2.58
C1733L	632	90	40		3.39	3.23	3.07
C1733CG‡	603-02	120	20		2.10	2.00	1.90
C1733CL‡	632				1.89	1.80	1.71

Bandwidth value only. †Case 632 (suffix L) available at same rice. ‡Temperature, 0° C to +75° C.

YOUR ORDER PROCESSED BY

PEOPLE WHO CARE

DIGITAL-TO-ANALOG CONVERTERS

Temperature 0° C to +70° C. MDTL, MTTL compatible.
Temperature −55° C to +125° C. available.

Motorola Type	Case	Function	Net Each, Lots 1-9	10-49	50-99
MC1406L	632	6-bit D/A converter	$10.18	$9.70	$9.21
MC1408L6	620	8-bit D/A converter	3.84	3.66	3.48
MC1408L7	620		4.75	4.52	4.30
MC1408L8	620		6.55	6.24	5.93
MC3410L	690	10-bit D/A converter	20.84	19.84	18.85
MC3410CL	690		14.52	13.83	13.14
MC3510L	690		33.31	31.72	30.14

RECEIVERS

Temperature 0° C to +70° C; MTTL compatible.

MC75107L*	632	Dual line receiver with strobe inputs	$4.08	$3.88	$3.69
MC75107P*	646		3.07	2.93	2.78
MC75108L†	632		4.08	3.88	3.69
MC75108P†	646		3.07	2.93	2.78

Temperature 0° C to +75° C. MDTL, MTTL compatible.

MC1489L	632	Quad line receiver	$1.89	$1.80	$1.71
MC1489AL	632		1.89	1.80	1.71

*Active pullup. †Open collector output.

COMPARATORS

Temperature 0° C to +75° C. A_{vol} = 1,000 V/V min. except MC1711, 700V/V min. Temperature −55° C to +125° C. avail.

MC1711G	603	Dual comparators with strobe capability	$2.10	$2.00	$1.90
MC1711CG	603-2		1.65	1.57	1.49
LM111H	601	Precision comparators	12.19	11.61	11.03
LM211H	601		6.19	5.89	5.60
LM311H	601		1.98	1.89	1.80

INTERFACE CIRCUITS

Interface circuits fit in the gray area between the linear and digital realms. Usually these ICs perform the necessary translation between an analog signal input and the required digital logic levels or vice versa.

LINE DRIVERS, RECEIVERS AND TRANSCEIVERS

Motorola Type	Case	Function	Net Each, Lots of 1-9	10-49	50-99
MC8T13L	620	Open-emitter dual line driver TTL compatible	$4.33	$4.12	$3.92
MC8T13P	648		3.21	3.06	2.91
MC8T14L	620	Hysteresis-equipped line rec. TTL compatible	4.33	4.12	3.92
MC8T14P	648		3.21	3.06	2.91
MC8T23L	620	Open-emitter dual line driver IBM system compatible	4.62	4.40	4.18
MC8T23P	648		3.56	3.39	3.22
MC8T24L	620	Hysteresis-equipped line rec. IBM system compatible	4.62	4.40	4.18
MC8T24P	648		3.56	3.39	3.22
MC8T26AL	620	Quad bidirectional data bus extender	5.38	5.12	4.87
MC8T26AP	648		3.14	2.99	3.84
MC8T28L	620		5.38	5.12	4.87
MC8T95P	648	Non-inv. Hex unidirectional address and control bus extender with 3-state outputs	2.72	2.59	2.46
MC8T96P	648	Inv.	2.72	2.59	2.46
MC8T97P	648	Non-inv.	2.72	2.59	2.46
MC8T98P	648	Inv.	2.72	2.59	2.46
MC26S10L	620	Quad bus transceiver	5.38	5.12	4.87
MC26S10P	648		4.57	4.35	4.13
MC75S110L	632	Dual differential line driver	4.08	3.88	3.69
MC75S110P	646		3.28	3.13	2.97
MC1411P	648	G.P. Seven Darlington transistor array with output clamp diodes	1.68	1.60	1.52
MC1412P	648	PMOS	1.68	1.60	1.52
MC1413P	648	CMOS	1.68	1.60	1.52
MC1416P	648	MOS	1.68	1.60	1.52
MC1472P1	626	Dual peripheral driver	2.32	2.21	2.10
MC1488L	632	Quad, output current	1.93	1.84	1.74
MC1489L	632	Quad, low hysteresis, line receiver	1.89	1.80	1.71
MC1489AL	632		1.89	1.80	1.71
MC3437L	620	Hex line receiver hysteresis equipped	4.33	4.12	3.92
MC3437P	648		3.81	3.63	3.45
MC3438L	620	Quad line transceiver with open collectors	4.33	4.12	3.92
MC3438P	648		3.77	3.59	3.41
MC3440AP	648	Quad line transceiver	4.47	4.26	4.04
MC3441AP	648		4.47	4.26	4.04
MC3443P	648		4.47	4.26	4.04
MC3446AP	648		4.68	4.46	4.23
MC3447L	623	Octal line transceiver	8.44	8.03	7.63
MC3447P	724		6.91	6.58	6.26
MC3448AL	620	Quad line transceiver	6.87	6.54	6.22
MC3448AP	648		5.80	5.52	5.24
MC3449L	620	Bidirectional bus switch	10.47	9.98	9.48
MC3449P	648		8.91	8.49	8.06
MC3450L	620	Quad line receiver	12.14	11.56	10.98
MC3450P	648		10.19	9.71	9.22
MC3452P	648		10.19	9.71	9.22
MC3453L	620	Quad line driver	12.88	12.26	11.65
MC3453P	648		10.82	10.31	9.79
MC3481L	620	Quad line driver	7.26	6.92	6.57
MC3481P	648		6.63	6.32	6.00
MC3482AL	732	Octal unidirectional bus extender	6.13	5.84	5.55
MC3482BL	732		6.34	6.04	5.74
MC3485L	620	Quad line driver	7.26	6.92	6.57
MC3485P	648		6.63	6.32	6.00

Motorola Type	Case	Function	Net Each, Lots of 1-9	10-49	50-99
MC3486L	620	Quad line receiver	$5.38	$5.12	$4.87
MC3486P	648		4.80	4.58	4.36
MC3487L	620	Quad line driver	5.24	4.99	4.74
MC3487P	648		4.75	4.52	4.30
MC3490P	648	High level gas discharge drivers	5.67	5.40	5.13
MC3491P	701		5.80	5.52	5.24
MC3492P	701		6.15	5.85	5.56
MC3494P	648		5.80	5.52	5.24
MC6880AL	620	Quad bus transceiver	5.38	5.12	4.87
MC6880AP	648		3.14	2.99	2.84
MC6881L	620	Bidirectional bus switch	10.47	9.98	9.48
MC6881P	648		8.91	8.49	8.06
MC6882AL	732	Octal bus extender	6.13	5.84	5.55
MC6882BL	738		6.34	6.04	5.74
MC6885L	620	Non-inv. Hex unidirectional address and control bus extenders	4.50	4.28	4.07
MC6885P	648		2.72	2.59	2.46
MC6886L	620	Inv.	4.50	4.28	4.07
MC6886P	648		2.72	2.59	2.46
MC6887L	620	Non-inv.	4.50	4.28	4.07
MC6887P	648		2.72	2.59	2.46
MC6888L	620	Inv.	4.50	4.28	4.07
MC6888P	648		2.72	2.59	2.46
MC6889L	620	Quad bus transceiver	5.38	5.12	4.87
MC6889P	648		3.14	2.99	2.84
MC10177L	620	Triple line driver	7.63	7.26	6.92
MC55107L	632	Dual line receivers	7.44	7.09	6.74
MC55108L	632		7.44	7.09	6.74
MC55325L	620	Core driver	9.85	9.38	8.91
MC75107L	632	Dual line receivers	4.08	3.88	3.69
MC75107P	646		3.07	2.93	2.78
MC75108L	632		4.08	3.88	3.69
MC75108P	646		3.07	2.93	2.78
MC75125L	620	7-channel line receivers	5.24	4.99	4.74
MC75125P	648		3.91	3.72	3.54
MC75127L	620		5.24	4.99	4.74
MC75127P	648		3.91	3.72	3.54
MC75128L	620	8-channel line receivers	6.40	6.09	5.79
MC75128P	648		4.75	4.52	4.30
MC75129L	620		6.40	6.09	5.79
MC75129P	648		4.75	4.52	4.30
MC75325L	620	Core driver	4.62	4.40	4.18
MC75451P	626	AND out Dual peripheral drivers	1.75	1.66	1.58
MC75461P	626		2.23	2.13	2.02
MC75452P	626	NAND out	1.75	1.66	1.58
MC75462P	626		2.23	2.13	2.02
MC75453P	626	OR out	1.75	1.66	1.58
MC75463P	626		2.23	2.13	2.02
MC75454P	626	NOR out	1.75	1.66	1.58
MC75464P	626		2.23	2.13	2.02
MC75491P	646	Quad LED segment driver	1.29	1.22	1.16
MC75492P	646	Hex LED digit driver	1.68	1.60	1.52
MMH0026G	601	Dual clock drivers	20.60	19.62	18.64
MMH0026L	632		20.54	19.56	18.59
MMH0026CG	601		8.44	8.03	7.63
MMH0026CL	632		8.38	7.98	7.58
MMH0026CP1	626		2.61	2.49	2.36

DUE TO THE FAST DEVELOPMENT IN SEMICONDUCTOR ENGINEERING, NEW ITEMS

ARE CONSTANTLY BEING ADDED TO OUR COMPLETE STOCK.

CALL OR WRITE US FOR THE LATEST INFORMATION

FIXED OUTPUT VOLTAGE REGULATORS

T_A = 0° C to +150° C.

Motorola Type	Case	Output V	Output Tol. ±V	Max. I_O mA	Net Ea., Lots of 1-9	10-49	50-99
POSITIVE OUTPUT							
MC78L05CG	79	5.0	0.5	100	$1.96	$1.86	$1.77
MC78M05CT	313	5.0	0.25	500	1.75	1.66	1.58
MC7805CK	11	5.0	0.25	1500	3.14	2.99	2.84
MC1309H	11	5.0	0.25	3000	4.80	4.58	4.35
MC78M06CT	313	6.0	0.3	500	1.75	1.66	1.58
MC78M08CT	313	8.0	0.4	500	1.75	1.66	1.58
MC7808CK	11	8.0	0.4	1500	3.14	2.99	2.84
MC78L12CG	79	12	1.2	100	1.96	1.86	1.77
MC78M12CT	313	12	0.6	500	1.75	1.66	1.58
MC7812CK	11	12	0.6	1500	3.14	2.99	2.84
MC78L15CG	79	15	1.5	100	1.96	1.86	1.77
MC78M15CT	313	15	0.75	500	1.75	1.66	1.58
MC7815CK	11	15	0.75	1500	3.14	2.99	2.84
MC78L18CG	79	18	1.8	100	1.96	1.86	1.77
MC78M18CT	313	18	0.9	500	1.75	1.66	1.58
MC7818CK	11	18	0.9	1500	3.14	2.99	2.84
MC78M20CT	313	20	1.0	500	1.75	1.66	1.58
MC78L24CG	79	24	2.4	100	1.96	1.86	1.77
MC7824CK	11	24	1.2	1500	3.14	2.99	2.84
NEGATIVE OUTPUT							
MC7902CK	1	2.0	0.1	1500	$4.41	$4.20	$3.99
MC7902CT	221A	2.0	0.1	1500	2.35	2.23	2.12
MC79L03CG	79	3.0	0.3	100	2.25	2.14	2.03
MC79L03CP	29	3.0	0.3	100	1.12	1.06	1.01
MC79L03ACG	79	3.0	0.15	100	3.10	2.95	2.81
MC79L03ACP	29	3.0	0.15	100	1.75	1.66	1.58
MC79L05CG	79	5.0	0.5	100	2.25	2.14	2.03
MC79L05ACG	79	5.0	0.25	100	3.10	2.95	2.81
MC7905CK	11	5.0	0.25	1500	4.41	4.20	3.99
MC7905.2CK	11	5.2	0.26	1500	4.41	4.20	3.99
MC7906CK	11	6.0	0.3	1500	4.41	4.20	3.99
MC7908CK	11	8.0	0.4	1500	4.41	4.20	3.99
MC79L12CG	79	12	1.2	100	2.25	2.14	2.03
MC7912CK	11	12	0.6	1500	4.41	4.20	3.99
MC79L15CG	79	15	1.5	100	2.25	2.14	2.03
MC79L15ACG	79	15	0.75	100	3.10	2.95	2.81
MC7915CK	11	15	0.75	1500	4.41	4.20	3.99
MC79L18CG	79	18	1.8	100	2.25	2.14	2.03
MC79L18ACG	79	18	0.9	100	3.10	2.95	2.81
MC7918CK	11	18	0.9	1500	4.41	4.20	3.99
MC79L24CG	79	24	2.4	100	2.25	2.14	2.03
MC79L24ACG	79	24	1.2	100	3.10	2.95	2.81
MC7924CK	11	24	1.2	1500	4.41	4.20	3.99

VARIABLE OUTPUT VOLTAGE REGULATORS

P_D at 25° C.

Motorola Type	Case	V_O VDC	Maximum I_O mA	Maximum P_D W	Net Ea., Lots of 1-9	10-49	50-99
POSITIVE OUTPUT							
MC1723G	603C	2.0–37	150	0.65	$2.25	$2.14	$2.03
MC1469G	603	2.5–32	250	0.68	6.01	5.72	5.43
MC1569G	603	2.5–32	250	0.68	9.61	9.15	8.69
NEGATIVE OUTPUT							
MC1463G	603	3.8–32	250	0.68	$6.03	$5.75	$5.46
MC1563G	603	3.6–33	250	0.68	11.28	10.75	10.21

SPECIAL REGULATORS

FLOATING REGULATORS

Designed for laboratory type power supplies, these regulators can deliver hundreds of volts—limited only by the breakdown voltage of associated, external, series-pass transistors.

Motorola Type	Case	Volts	I_O mA	Max. P_D W	Net Each, Lots of 1-9	10-49	50-99
MC1466L	632	‡	§	0.75	$14.08	13.41	12.74
MC1566L	632	‡	#	0.75	18.28	17.41	16.54

‡Limited only by the characteristics of the external series-pass elements. §Current regulation 0.2%; #0.1%.

DUAL ±15 V TRACKING REGULATORS

Dual polarity regulators designed to provide balanced positive and negative output voltages. Internally, the devices are set for ±15 V output; but an external adjustment can change both outputs simultaneously from 8 to 20 V.

MC1468G	603C	14.8–15.2	±100	0.8	$7.36	$7.01	$6.66
MC1468L	632	14.8–15.2	±100	1.0	7.44	7.09	6.74
MC1468R	614	14.8–15.2	±100	2.4	10.42	9.92	9.43
MC1568G	603C	14.8–15.2	±100	0.8	9.06	8.63	8.20
MC1568L	632	14.8–15.2	±100	1.0	8.49	8.09	7.68
MC1568R	614	14.8–15.2	±100	2.4	13.42	12.78	12.14
LOW TEMPERATURE DRIFT, LOW VOLTAGE REFERENCE							
MC1403U	693	2.5	10	.....	$3.78	$3.60	$3.42
MC1403AU	693	2.5	10	.....	11.07	10.55	10.02
MC1503U	693	2.5	10	.....	10.63	10.12	9.62
MC1503AU	693	2.5	10	.....	25.35	24.14	22.93

SWITCHING TYPES

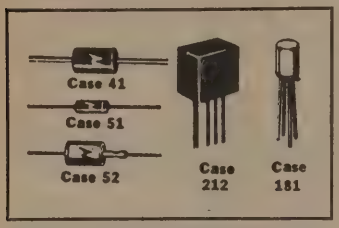
Motorola Type	Case	Min.—Max. V_{CC} Volts	Min.—Max. f_O kHz	Max. I_O ±mA	Net Each, Lots of 1-9	10-49	50-99
MC3420L	620	10–30	2–100	40	$10.08	$9.60	$9.12
MC3420P	648	10–30	2–100	40	9.48	9.03	8.58

CONSUMER DEVICES

Motorola Type	Case	Function	Net Each, Lots of 1-9	10-49	50-99
TELEVISION CIRCUITS					
MC1351P	646	Sound IF, detector, limiter, preamp	$2.10	$2.00	$1.90
MC1357P	646	Sound IF detector	2.19	2.08	1.98
MC1358P	646	Sound IF detector, DC volume control, preamp	1.91	1.82	1.73
MC1349P	626	1st and 2nd video IF	1.72	1.63	1.56
MC1350P	626	1st and 2nd video IF	1.44	1.37	1.30
MC1352P	646	1st and 2nd video IF, AGC, keyer and amp.	2.01	1.91	1.82
MC1330A1P	626	3rd video IF, detector, video amp and AFC buffer	2.20	2.10	2.00
MC1330A2P	626	3rd video IF, detector, video amp and AFC buffer	2.20	2.10	2.00
MC1364P	646	Automatic fine tuning	2.01	1.91	1.82
MC1398P	646	Chrome IF amplifier and subcarrier system	4.14	3.94	3.75
MC1324P	646	Dual chroma demod.	2.67	2.54	2.42
MC1391P	626	Horizontal processor	1.44	1.37	1.30
MC1394P	626	Horizontal processor	1.44	1.37	1.30
MC1393AP	648	Vertical processor	2.58	2.46	2.34

Motorola Type	Case	Function	Net Each, Lots of 1-9	10-49	50-99
RADIO CIRCUITS					
MC1350P	626	IF amplifier	$1.44	$1.37	$1.30
MC1355P	646	Limiting FM IF amplifier	2.10	2.00	1.90
MC1356P	646	Limiting FM IF amplifier with quadrature detector	2.29	2.18	2.08
MC1357P	646	Limiting FM IF amplifier with quadrature detector	2.19	2.08	1.98
MC3310P	626	IF amplifier	1.26	1.20	1.14
MC1310P	646	FM multiplex stereo	6.29	5.99	5.71
AUDIO CIRCUITS					
MC1306P	626	Audio power amplifier	$1.07	$1.02	$0.96
ORGAN CIRCUITS					
MC1302P	646	7-stage divider	$3.72	$3.55	$3.38
MC3340P	626	Electronic attenuator	2.10	2.00	1.90
AUTOMOTIVE CIRCUITS					
MC3301P	646	Quad operational amplifier	$1.23	$1.17	$1.11
MC3302P	646	Quad comparator	1.12	1.06	1.01
LM239N	646	Quad comparator	2.92	2.78	2.64
MC3325P	646	Automotive regulator	2.10	2.00	1.90
MC3333P	646	Variable dwell ignition	4.75	4.52	4.30
TRANSISTOR ARRAYS					
MC3346P	646	Differential pair and three isolated transistors	$1.49	$1.42	$1.35
MC3330P	626	Differential pair and constant current transistor	1.17	1.12	1.06

MOTOROLA Semiconductors — SILICON ZENER REFERENCE DIODES



Extremely stable voltage reference sources. Diffused junction units combine smallest size with tight stability.

400-mW SUBMINIATURE

6.2 VOLT (CASE 51)

Temperature Range: −55° C to +100° C. **Voltage Range:** 5.9–6.5 volts at 7.5 mA. **Dynamic Impedance:** 15 ohms max.; 10 ohms suffix **A**.

Motorola Type	Avg. TC %/° C	Net Each, Lots of 1-9	Net Each, Lots of 10-49
1N821*	.01	$ 1.39	$ 1.33
1N821A	.01	1.83	1.75
1N823*	.005	1.83	1.75
1N823A	.005	2.27	2.17
1N825*	.002	2.42	2.31
1N825A	.002	2.79	2.65
1N827*	.001	5.98	5.70
1N827A	.001	9.24	8.80
1N829*	.0005	20.60	19.62
1N829A	.0005	24.71	23.53

*JAN, JTX, JTXV available to MIL-S-19500/159.

8.4 VOLT (CASE 51)

Temperature Range: −55° C to +100° C; −55° C to +150° C (suffix **A**). **Voltage Range:** 7.98–8.8 volts at 10 mA. **Dynamic Impedance:** 15 ohms maximum.

1N3154*	.01	$ 3.81	$ 3.63
1N3154A	.01	5.28	5.03
1N3155*	.005	5.21	4.96
1N3155A	.005	6.38	6.08
1N3156*	.002	9.02	8.59
1N3156A	.002	10.41	9.92
1N3157*	.001	11.14	10.61
1N3157A	.001	16.28	15.50

*JAN, JTX available to MIL-S-19500/158.

500-mW SUBMINIATURE

9.0 VOLT (CASE 51)

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**); −55° C to +150° C (suffix **B**). **Voltage Range:** 8.55–9.45 volts at 7.5 mA, 25° C ambient. **Dynamic Impedance:** 20 ohms max.

1N935	.01	$ 2.71	$ 2.58
1N935A	.01	3.08	2.93
1N935B*	.01	4.18	3.98
1N936	.005	3.23	3.07
1N936A	.005	4.18	3.98
1N936B	.005	4.91	4.68
1N937	.002	6.31	6.01
1N937A	.002	7.19	6.84
1N937B*	.002	8.36	7.96
1N938	.001	8.80	8.38
1N938A	.001	9.53	9.08
1N938B*	.001	12.61	12.01
1N939	.0005	22.73	21.65
1N939A	.0005	32.04	30.51
1N939B*	.0005	34.53	32.89

*JAN, JTX, JTXV available to MIL-S-19500/156.

11.7 VOLT (CASE 51)

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**); −55° C to +150° C (suffix **B**). **Voltage Range:** 11.12–12.29 volts at 7.5 mA. **Dynamic Impedance:** 30 ohms max.

1N941	.01	$ 4.03	$ 3.84
1N941A	.01	4.25	4.05
1N941B*	.01	4.55	4.33
1N942	.005	4.40	4.19
1N942A	.005	5.50	5.24
1N942B	.005	6.23	5.94
1N943	.002	8.73	8.31
1N943A	.002	8.80	8.38
1N943B*	.002	9.09	8.66
1N944	.001	12.83	12.22
1N944A	.001	16.50	15.71
1N944B*	.001	21.92	20.88

*JAN, JTX available to MIL-S-19500/157.

250-mW LOW LEVEL SUBMINIATURE

Temperature Range: 0° C to +75° C; −55° C to +100° C (suffix **A**).

6.4 VOLT (CASE 51)

Test Current: 0.5 mA. **Dynamic Impedance:** 200 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of 1-9	Net Each, Lots of 10-49
1N4565	.01	$12.68	$12.08
1N4565A	.01	14.22	13.55
1N4566	.005	17.16	16.34
1N4566A	.005	19.14	18.23
1N4567	.002	34.90	33.24
1N4567A	.002	38.79	36.94
1N4568	.001	60.27	57.40
1N4568A	.001	67.09	63.89
1N4569	.0005	131.24	124.99
1N4569A	.0005	145.90	138.95

Test Current: 1.0 mA. **Dynamic Impedance:** 100 ohms maximum.

1N4570	.01	$ 8.58	$ 8.17
1N4570A	.01	9.53	9.08
1N4571	.005	11.00	10.47
1N4571A	.005	11.88	11.31
1N4572	.002	19.43	18.50
1N4572A	.002	21.63	20.60
1N4573	.001	35.56	33.87
1N4573A	.001	39.59	37.71
1N4574	.0005	82.85	78.90
1N4574A	.0005	92.60	88.19

Test Current: 2.0 mA. **Dynamic Impedance:** 50 ohms maximum.

1N4575	.01	$ 4.40	$ 4.19
1N4575A	.01	4.84	4.61
1N4576	.005	5.35	5.10
1N4576A	.005	5.94	5.66
1N4577	.002	9.68	9.22
1N4577A	.002	10.70	10.19
1N4578	.001	17.82	16.97
1N4578A	.001	19.80	18.85
1N4579	.0005	41.43	39.45
1N4579A	.0005	46.04	43.85

Test Current: 4.0 mA. **Dynamic Impedance:** 25 ohms maximum.

1N4580	.01	$ 4.40	$ 4.19
1N4580A	.01	4.84	4.61
1N4581	.005	5.35	5.10
1N4581A	.005	5.94	5.66
1N4582	.002	9.68	9.22
1N4582A	.002	10.70	10.19
1N4583	.001	17.82	16.97
1N4583A	.001	19.80	18.85
1N4584	.0005	41.43	39.45
1N4584A	.0005	46.04	43.85

8.5 VOLT (CASE 51)

Test Current: 0.5 mA. **Dynamic Impedance:** 200 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of 1-9	Net Each, Lots of 10-49
1N4775	.01	$12.68	$12.08
1N4775A	.01	14.22	13.55
1N4776	.005	17.16	16.34
1N4776A	.005	19.14	18.23
1N4777	.002	34.90	33.24
1N4777A	.002	38.80	36.95
1N4778	.001	60.27	57.40
1N4778A	.001	67.09	63.89
1N4779	.0005	131.24	124.99
1N4779A	.0005	145.90	138.95

Test Current: 1.0 mA. **Dynamic Impedance:** 100 ohms maximum.

1N4780	.01	$ 8.58	$ 8.17
1N4780A	.01	9.53	9.08
1N4781	.005	10.70	10.19
1N4781A	.005	11.88	11.31
1N4782	.002	19.43	18.50
1N4782A	.002	21.63	20.60
1N4783	.001	35.56	33.87
1N4783A	.001	39.59	37.71
1N4784	.0005	82.85	78.90
1N4784A	.0005	92.60	88.19

750-mW MINIATURE

9.4 VOLT (CASE 52)

Temperature Range: 1N2163–1N2169A, 0° C to +70° C; 1N2164–1N2170A, −55° C to +125° C; 1N2165–1N2171A, −55° C to +185° C. **Voltage:** V_Z = 9.4 volts ±0.4 V; ±0.2 V (suffix **A**). **Dynamic Impedance:** 15 ohms maximum.

Motorola Type	Avg. TC %/° C	Net Each, Lots of 1-9	Net Each, Lots of 10-49
1N2163	.005	$ 6.06	$ 5.77
1N2163A	.005	6.32	6.02
1N2166	.001	12.46	11.87
1N2166A	.001	14.85	14.15
1N2169	.0005	31.07	29.59
1N2169A	.0005	45.82	43.64
1N2164	.005	8.24	7.85
1N2164A	.005	10.09	9.61
1N2167	.001	15.85	15.10
1N2167A	.001	20.25	19.29
1N2170	.0005	43.92	41.83
1N2170A	.0005	67.73	64.51
1N2165	.005	10.35	9.86
1N2165A	.005	13.39	12.75
1N2168	.001	21.82	20.78
1N2168A	.001	29.24	27.85
1N2171	.0005	63.87	60.83
1N2171A	.0005	81.57	77.69

PRECISION REFERENCE DIODES (CASE 51)

Designed, manufactured and tested for ultra-high stability of voltage with time and temperature change. Calibration is directly traceable to National Bureau of Standards.

Motorola Type	Nom. V_Z Volts	ΔV_Z* mV	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MZ605	6.2 ± 5%	2.5	$72.55	$68.92
MZ610	6.2 ± 5%	2.5	36.97	35.13
MZ620	6.2 ± 5%	2.5	27.86	26.47
MZ640	6.2 ± 5%	2.5	24.67	23.44

*Over temperature range of +25° C to +100° C.

SURMETIC™ FORWARD REFERENCE DIODES GLASS PACKAGE

I_R = 10 μA max. at V_R = 5.0 V.

Motorola Type	V_F at I_F V	V_F at I_F mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MZ2360*	0.63–0.71	10	$0.41	$0.39
MZ2361†	1.24–1.38	10	.84	.80

*Case 59. †Case 51.

FIELD EFFECT CURRENT REGULATOR DIODES (CASE 51)

Motorola Type	Reg. mA	Net Ea., Lots of 1-9	Net Ea., Lots of 10-49
1N5283	0.22	$8.07	$7.68
1N5284	0.24	8.07	7.68
1N5285	0.27	4.84	4.61
1N5286	0.30	4.84	4.61
1N5287	0.33	4.84	4.61
1N5288	0.39	4.84	4.61
1N5289	0.43	4.84	4.61
1N5290	0.47	8.07	7.68
1N5291	0.56	3.37	3.21
1N5292	0.62	3.37	3.21
1N5293	0.68	3.37	3.21
1N5294	0.75	3.37	3.21
1N5295	0.82	3.37	3.21
1N5296	0.91	3.37	3.21
1N5297	1.00	8.07	7.68
1N5298	1.10	3.37	3.21
1N5299	1.20	3.37	3.21
1N5300	1.30	3.37	3.21
1N5301	1.40	3.37	3.21
1N5302	1.50	3.37	3.21
1N5303	1.60	3.37	3.21
1N5304	1.80	3.37	3.21
1N5305	2.00	8.07	6.78
1N5306	2.20	3.37	3.21
1N5307	2.40	3.37	3.21
1N5308	2.70	3.37	3.21
1N5309	3.00	3.37	3.21
1N5310	3.30	3.37	3.21
1N5311	3.60	4.84	4.61
1N5312	3.90	4.84	4.61
1N5313	4.30	4.84	4.61
1N5314	4.70	8.07	7.68
MCL1300	0.5	3.37	3.21
MCL1301	1.0	3.37	3.21
MCL1302	2.0	3.37	3.21
MCL1303	3.0	3.37	3.21
MCL1304	4.0	3.37	3.21

MOTOROLA Semiconductors — Zener Diodes



Nom. Zener Volts	Case 51 250 mW	Case 51 250 mW	Case 51 400 mW	Case 51 500 mW	Case 51 500 mW	Case 59 1 W	Case 52 1 W	Case 59 1.5 W	Case 55 1.5 W	Case 17 5 W	Case 56 10 W	Case 54 50 W	Case 58 50 W
1.8	MZ4678	MZ4614	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.0	MZ4679	MZ4615	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.2	MZ4680	MZ4616	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
2.4	MZ4681	MZ4617	.....	1N4370	1N5221	.....	.....	.....	.....	.....	.....	.....	.....
2.7	MZ4682	MZ4618	.....	1N4371	1N5223	.....	.....	.....	.....	.....	.....	.....	.....
3.0	MZ4683	MZ4619	.....	1N4372	1N5225	.....	.....	.....	.....	.....	.....	.....	.....
3.3	MZ4684	MZ4620	1N5518	1N746	1N5227	1N4728	1N3821	1N5913	.....	1N5333	.....	.....	.....
3.6	MZ4685	MZ4621	1N5519	1N747	1N5227	1N4729	1N3822	1N5914	.....	1N5334	.....	.....	.....
3.9	MZ4686	MZ4622	1N5520	1N748	1N5228	1N4730	1N3823	1N5915	.....	1N5335	1N3993	1N4557	1N4549
4.3	MZ4687	MZ4623	1N5521	1N749	1N5229	1N4731	1N3824	1N5916	.....	1N5336	1N3994	1N4558	1N4550
4.7	MZ4688	MZ4624	1N5522	1N750	1N5230	1N4732	1N3825	1N5917	.....	1N5337	1N3995	1N4559	1N4551
5.1	MZ4689	MZ4625	1N5523	1N751	1N5231	1N4733	1N3826	1N5918	.....	1N5338	1N3996	1N4560	1N4552
5.6	MZ4690	MZ4626	1N5524	1N752	1N5232	1N4734	1N3827	1N5919	.....	1N5339	1N3997	1N4561	1N4553
6.2	MZ4691	MZ4627	1N5525	1N753	1N5234	1N4735	1N3828	1N5920	.....	1N5341	1N3998	1N4562	1N4554
6.8	MZ4692	1N4099	1N5526	1N754	1N5235	1N4736	1N3829	1N5921	1N3785	1N5342	1N3999	1N4563	1N4555
				1N957									
7.5	MZ4693	1N4100	1N5527	1N755	1N5236	1N4737	1N3830	1N5922	1N3786	1N5343	1N4000	1N4564	1N4556
				1N958			1N3017				1N2971	1N2805	1N3306
8.2	MZ4694	1N4101	1N5528	1N756	1N5237	1N4738	1N3018	1N5923	1N3787	1N5344	1N2972	1N2806	1N3307
				1N959									
8.7	MZ4695	1N4102	.....	.....	1N5238	.....	.....	.....	.....	1N5345	.....	.....	.....
9.1	MZ4696	1N4103	1N5529	1N757	1N5239	1N4739	1N3019	1N5924	1N3788	1N5346	1N2973	1N2807	1N3308
				1N960									
10	MZ4697	1N4104	1N5530	1N758	1N5240	1N4740	1N3020	1N5925	1N3789	1N5347	1N2974	1N2808	1N3309
				1N961									
11	MZ4698	1N4105	1N5531	1N962	1N5241	1N4741	1N3021	1N5926	1N3790	1N5348	1N2975	1N2809	1N3310
12	MZ4699	1N4106	1N5532	1N759	1N5242	1N4742	1N3022	1N5927	1N3791	1N5349	1N2976	1N2810	1N3311
				1N963									
13	MZ4700	1N4107	1N5533	1N964	1N5243	1N4743	1N3023	1N5928	1N3792	1N5350	1N2977	1N2811	1N3312
14	MZ4701	1N4108	1N5534	.....	1N5244	.....	.....	.....	.....	1N5351	1N2978	1N2812	1N3313
15	MZ4702	1N4109	1N5535	1N965	1N5245	1N4744	1N3024	1N5929	1N3793	1N5352	1N2979	1N2813	1N3314
16	MZ4703	1N4110	1N5536	1N966	1N5246	1N4745	1N3025	1N5930	1N3794	1N5353	1N2980	1N2814	1N3315
17	MZ4704	1N4111	1N5537	.....	1N5247	.....	.....	.....	.....	1N5354	.....	1N2815	1N3316
18	MZ4705	1N4112	1N5538	1N967	1N5248	1N4746	1N3026	1N5931	1N3795	1N5355	1N2982	1N2816	1N3317
19	MZ4706	1N4113	1N5539	.....	1N5249	.....	.....	.....	.....	1N5356	1N2983	1N2817	1N3318
20	MZ4707	1N4114	1N5540	1N968	1N5250	1N4747	1N3027	1N5932	1N3796	1N5357	1N2984	1N2818	1N3319
22	MZ4708	1N4115	1N5541	1N969	1N5251	1N4748	1N3028	1N5933	1N3797	1N5358	1N2985	1N2819	1N3320
24	MZ4709	1N4116	1N5542	1N970	1N5252	1N4749	1N3029	1N5934	1N3798	1N5359	1N2986	1N2820	1N3321
25	MZ4710	1N4117	1N5543	1N971	1N5253	.....	.....	.....	.....	1N5360	.....	1N2821	1N3322
27	MZ4711	1N4118	.....	1N971	1N5254	1N4750	1N3030	1N5935	1N3799	1N5361	1N2988	1N2822	1N3323
28	MZ4712	1N4119	1N5544	.....	1N5255	.....	.....	.....	.....	1N5362	.....	.....	.....
30	MZ4713	1N4120	1N5545	1N972	1N5256	1N4751	1N3031	1N5936	1N3800	1N5363	1N2989	1N2823	1N3324
33	MZ4714	1N4121	1N5546	1N973	1N5257	1N4752	1N3032	1N5937	1N3801	1N5364	1N2990	1N2824	1N3325
36	MZ4715	1N4122	.....	1N974	1N5258	1N4753	1N3033	1N5938	1N3802	1N5365	1N2991	1N2825	1N3326
39	MZ4716	1N4123	.....	1N975	1N5259	1N4754	1N3034	1N5939	1N3803	1N5366	1N2992	1N2826	1N3327
43	MZ4717	1N4124	.....	1N976	1N5260	1N4755	1N3035	1N5940	1N3804	1N5367	1N2993	1N2827	1N3328
47	.....	1N4125	.....	1N977	1N5261	1N4756	1N3036	1N5941	1N3805	1N5368	1N2996	1N2929	1N3330
51	.....	1N4126	.....	1N978	1N5262	1N4757	1N3037	1N5942	1N3806	1N5369	1N2997	1N2831	1N3332
56	.....	1N4127	.....	1N979	1N5263	1N4758	1N3038	1N5943	1N3807	1N5370	1N2999	1N2832	1N3334
60	.....	1N4128	.....	.....	1N5264	.....	.....	.....	.....	1N5371	.....	.....	.....
62	.....	1N4129	.....	1N980	1N5265	1N4759	1N3039	1N5944	1N3808	1N5372	1N3000	1N2833	1N3335
68	.....	1N4130	.....	1N981	1N5266	1N4760	1N3040	1N5945	1N3809	1N5373	1N3001	1N2834	1N3336
75	.....	1N4131	.....	1N982	1N5267	1N4761	1N3041	1N5946	1N3810	1N5374	1N3002	1N2835	1N3337
82	.....	1N4132	.....	1N983	1N5268	1N4762	1N3042	1N5947	1N3811	1N5375	1N3003	1N2836	1N3338
87	.....	1N4133	.....	.....	1N5269	.....	.....	.....	.....	1N5376	.....	.....	.....
91	.....	1N4134	.....	1N984	1N5270	1N4763	1N3043	1N5948	1N3812	1N5377	1N3004	1N2837	1N3339
00	.....	1N4135	.....	1N985	1N5271	1N4764	1N3044	1N5949	1N3813	1N5378	1N3005	1N2838	1N3340
10	.....	.....	.....	1N986	1N5272	1M110ZS10	1N3045	1N5950	1N3814	1N5379	1N3007	1N2840	1N3342
20	.....	.....	.....	1N987	1N5273	1M120ZS10	1N3046	1N5951	1N3815	1N5380	1N3008	1N2841	1N3343
30	.....	.....	.....	1N988	1N5274	1M130ZS10	1N3047	1N5952	1N3816	1N5381	1N3009	1N2841	1N3344
40	.....	.....	.....	.....	1N5275	.....	.....	.....	.....	.....	.....	.....	.....
50	.....	.....	.....	1N989	1N5276	1M150ZS10	1N3048	1N5953	1N3817	1N5383	1N3011	1N2843	1N3346
60	.....	.....	.....	1N990	1N5277	1M160ZS10	1N3049	1N5954	1N3818	1N5384	1N3012	1N2844	1N3347
70	.....	.....	.....	.....	1N5278	1M170ZS10	.....	.....	.....	1N5385	.....	.....	.....
80	.....	.....	.....	1N991	1N5279	1M180ZS10	1N3050	1N5955	1N3819	1N5386	1N3014	1N2845	1N3349
00	.....	.....	.....	1N992	1N5281	1M200ZS10	1N3051	1N5956	1N3820	1N5388	1N3015	1N2846	1N3350

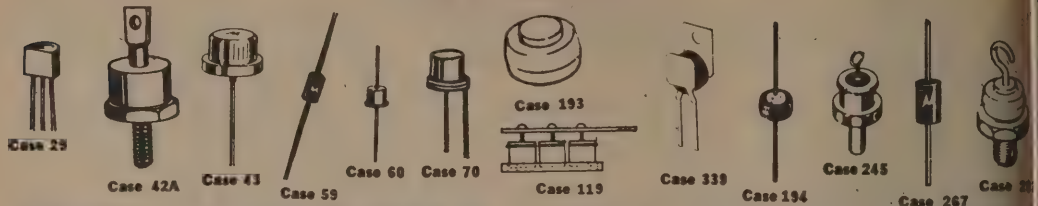
Motorola Type	Tol. ±%	Net Ea., Lots 1-9	Net Ea., Lots 10-49
1N746-1N759	10	$ 0.83	$ 0.79
1N746A-1N759A	5	.83	.79
1N957A-1N978A	10	.83	.79
1N979A-1N984A	10	1.16	1.10
1N985A-1N992A	10	1.85	1.76
1N957B-1N978B	5	.83	.79
1N979A-1N984A	5	1.16	1.10
1N985A-1N992A	5	2.23	2.13
1N2804A-1N2838A	10	11.22	10.68
1N2839A-1N2846A	10	16.57	15.78
1N2804B-1N2838B	5	15.62	14.87
1N2839B-1N2846B	5	26.32	25.07
1N2970A-1N3012A	10	8.58	8.17
1N3013A-1N3015A	10	13.20	12.57
1N2970B-1N3012B	5	10.70	10.19
1N3013B-1N3015B	5	20.16	19.20
1N3016A-1N3044A	10	4.69	4.47
1N3045A-1N3051A	10	4.77	4.54
1N3016B-1N3044B	5	5.43	5.17
1N3045B-1N3051B	5	6.82	6.49
1N3305A-1N3340A	10	11.22	10.68
1N3341A-1N3350A	10	16.57	15.78
1N3305B-1N3340B	5	15.62	14.87
1N3341B-1N3350B	5	26.32	25.07
1N3785A-1N3813A	10	9.72	9.26

Motorola Type	Tol. ±%	Net Ea., Lots 1-9	Net Ea., Lots 10-49
1N3814A-1N3816A	10	$11.82	$11.26
1N3817A-1N3820A	10	12.92	12.30
1N3785B-1N3813B	5	12.74	12.14
1N3814B-1N3816B	5	15.31	14.58
1N3817B-1N3820B	5	16.13	15.36
1N3821-1N3830	10	3.08	2.93
1N3821A-1N3820A	5	3.89	3.70
1N3993-1N4000	10	8.29	7.89
1N3993A-1N4000A	5	11.29	10.75
1N4089-1N4135	5	5.65	5.38
1N4370-1N4372	10	1.46	1.39
1N4370A-1N4372A	5	1.46	1.39
1N4549A-1N4564A	10	11.73	11.17
1N4549B-1N4564B	5	16.86	16.06
1N4728-1N4752	10	1.23	1.17
1N4753-1N4757	10	1.31	1.25
1N4758-1N4764	10	1.46	1.39
1N4728A-1N4752A	5	1.23	1.17
1N4753A-1N4757A	5	1.46	1.39
1N4758A-1N4764A	5	1.62	1.54
1N5221-1N5225	10	.92	.88
1N5226-1N5261	10	.65	.62
1N5262-1N5270	10	1.23	1.17
1N5271-1N5281	10	1.62	1.54
1N5221A-1N5225A	10	1.23	1.17

Motorola Type	Tol. ±%	Net Ea., Lots 1-9	Net Ea., Lots 10-49
1N5226A-1N5261A	10	$0.65	$0.62
1N5262A-1N5270A	10	1.46	1.39
1N5271A-1N5281A	10	1.85	1.76
1N5221B-1N5225B	5	1.43	1.36
1N5226B-1N5261B	5	.65	.62
1N5262B-1N5270B	5	1.74	1.66
1N5271B-1N5281B	5	2.22	2.11
1N5222A-1N5377A	10	2.57	2.44
1N5378A-1N5388A	10	2.93	2.79
1N5333B-1N5377B	5	2.64	2.51
1N5378B-1N5388B	5	3.08	2.93
1N5518A-1N5546A	10	4.33	4.12
1N5518B-1N5546B	5	6.16	5.87
1N5913A-1N5925A	10	3.96	3.77
1N5926A-1N5948A	10	3.52	3.35
1N5949A-1N5956A	10	3.81	3.63
1N5913B-1N5925B	5	5.13	4.89
1N5926B-1N5948B	5	4.11	3.91
1N5949B-1N5956B	5	5.43	5.17
MZ4614-MZ4627	5	5.65	5.38
MZ4678-MZ4707	5	5.35	5.10
MZ4708	5	5.50	5.24
MZ4709-MZ4717	5	5.35	5.10
1M110ZS10-1M200ZS10	10	3.31	3.16
1M110ZS5-1M200ZS5	5	3.42	3.25

MOTOROLA Semiconductors — Silicon Rectifiers

GENERAL PURPOSE RECTIFIERS



Motorola Type	Case	Io Amps	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
1N4001	59	1.0	50	30	$0.39	$0.37
1N4002	59	1.0	100	30	.40	.38
1N4003	59	1.0	200	30	.42	.40
1N4004	59	1.0	400	30	.46	.44
1N4005	59	1.0	600	30	.54	.51
1N4006	59	1.0	800	30	.68	.65
1N4007	59	1.0	1000	30	.85	.81
1N5391	59	1.5	50	50	.37	.35
1N5392	59	1.5	100	50	.40	.38
1N5393	59	1.5	200	50	.46	.40
1N5395	59	1.5	400	50	.55	.53
1N5397	59	1.5	600	50	.71	.67
1N5398	59	1.5	800	50	.86	.82
1N5399	59	1.5	1000	50	1.17	1.11
1N4719, R	60	3.0	50	300	1.70	1.62
1N4720, R	60	3.0	100	300	1.86	1.77
1N4721, R	60	3.0	200	300	2.01	1.92
1N4722, R	60	3.0	400	300	2.18	2.08
1N4723, R	60	3.0	600	300	2.36	2.25
1N4724, R	60	3.0	800	300	3.51	3.34
1N4725, R	60	3.0	1000	300	5.31	5.05
1N4997, R	70	3.0	50	300	1.70	1.62
1N4998, R	70	3.0	100	300	1.86	1.77
1N4999, R	70	3.0	200	300	2.01	1.92
1N5000, R	70	3.0	400	300	2.18	2.08
1N5001, R	70	3.0	600	300	2.36	2.25
1N5002, R	70	3.0	800	300	3.51	3.34
1N5003, R	70	3.0	1000	300	5.31	5.05
MR500	267	3.0	50	100	.41	.39
MR501	267	3.0	100	100	.47	.45
MR502	267	3.0	200	100	.53	.50
MR504	267	3.0	400	100	.65	.61
MR506	267	3.0	600	100	.85	.81
MR508	267	3.0	800	100	1.32	1.26
MR510	267	3.0	1000	100	1.61	1.54
1N5400	267	3.0	50	200	.43	.41
1N5401	267	3.0	100	200	.51	.49
1N5402	267	3.0	200	200	.56	.53
1N5404	267	3.0	400	200	.65	.61
1N5406	267	3.0	600	200	.88	.84
MR750	194	6.0	50	400	.84	.80
MR751	194	6.0	100	400	1.06	1.01
MR752	194	6.0	200	400	1.12	1.06
MR754	194	6.0	400	400	1.26	1.20
MR756	194	6.0	600	400	2.10	2.00
MR758	194	6.0	800	400	2.65	2.53
MR760	194	6.0	1000	400	3.21	3.06
1N1199, R	245	12	50	300	1.70	1.62
1N1199A, RA	245	12	50	300	1.70	1.62
1N1200, R	245	12	100	300	1.96	1.86
1N1200A, RA	245	12	100	300	1.96	1.86
1N1202, R	245	12	200	300	2.10	2.00
1N1202A, RA	245	12	200	300	2.10	2.00
1N1204, R	245	12	400	300	2.60	2.47
1N1204A, RA	245	12	400	300	2.60	2.47
1N1206, R	245	12	600	300	4.61	4.39
1N1206A, RA	245	12	600	300	4.61	4.39
MR1120, R	245	12	50	300	1.70	1.62
MR1121, R	245	12	100	300	1.96	1.86
MR1122, R	245	12	200	300	2.10	2.00
MR1124, R	245	12	400	300	2.60	2.47
MR1126, R	245	12	600	300	4.61	4.39
MR1128, R	245	12	800	300	8.76	8.34

Motorola Type	Case	Io Amps	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
MR1130, R	245	12	1000	300	$12.42	$11.82
1N3208, R	42A	15	50	250	1.83	1.74
1N3209, R	42A	15	100	250	2.23	2.13
1N3210, R	42A	15	200	250	2.86	2.73
1N3212, R	42A	15	400	250	4.06	3.87
1N3214, R	42A	15	600	250	5.84	5.56
1N248, R	42A	20	50	350	2.03	1.93
1N248C, RC	42A	20	50	350	2.03	1.93
1N249, R	42A	20	100	350	2.46	2.34
1N249C, RC	42A	20	100	350	2.46	2.34
1N250, R	42A	20	200	350	3.76	3.58
1N250C, RC	42A	20	200	350	3.76	3.58
1N1191, R	42A	20	50	350	2.57	2.45
1N1192, R	42A	20	100	350	3.02	2.87
1N1194, R	42A	20	200	350	4.04	3.84
1N1196, R	42A	20	400	350	5.06	4.82
1N1196A, RA	42A	20	400	350	5.45	5.19
1N1198, R	42A	20	600	350	8.37	7.97
1N1198A, RA	42A	20	600	350	8.88	8.46
MR2000S, SR	283	20	50	400	1.50	1.43
MR2001S, SR	283	20	100	400	1.58	1.51
MR2002S, SR	283	20	200	400	1.67	1.59
MR2004S, SR	283	20	400	400	1.76	1.68
MR2006S	283	20	600	400	2.64	2.51
MR2008S, SR	283	20	800	400	3.52	3.35
MR2010S, SR	283	20	1000	400	4.40	4.19
MR2400	339	24	50	400	1.66	1.58
MR2401	339	24	100	400	1.79	1.70
MR2402	339	24	200	400	1.91	1.82
MR2404	339	24	400	400	2.04	1.94
MR2406	339	24	600	400	2.54	2.42
MR2500	193	25	50	400	.88	.84
MR2501	193	25	100	400	.79	.75
MR2502	193	25	200	400	.84	.80
MR2504	193	25	400	400	.88	.84
MR2506	193	25	600	400	1.06	1.01
MR2508	193	25	800	400	1.28	1.22
MR2510	193	25	1000	400	2.16	2.05
1N3491, R	43	25	50	300	1.27	1.21
1N3492, R	43	25	100	300	1.52	1.45
1N3493, R	43	25	200	300	1.77	1.69
1N3495, R	43	25	400	300	2.42	2.30
MR328, R	43	25	600	300	3.60	3.43
MR330, R	43	25	800	300	5.00	4.76
MR331, R	43	25	1000	300	7.79	7.42
1N3659, R	43	30	50	400	1.77	1.69
1N3660, R	43	30	100	400	1.90	1.81
1N3661, R	43	30	200	400	2.03	1.93
1N3663, R	43	30	400	400	2.42	2.30
1N1183, R	42A	35	50	400	3.02	2.87
1N1183A, RA	42A	35	50	400	3.14	2.99
1N1184, R	42A	35	100	400	3.02	2.87
1N1184A, RA	42A	35	100	400	3.14	2.99
1N1186, R	42A	35	200	400	4.04	3.84
1N1186A, RA	42A	35	200	400	4.47	4.26
1N1188, R	42A	35	400	400	5.06	4.82
1N1188A, RA	42A	35	400	400	5.31	5.05
1N1190, R	42A	35	600	400	8.37	7.97
1N1190A, RA	42A	35	600	400	8.88	8.46
MR5005, R	43	50	50	600	3.49	3.33
MR5010, R	43	50	100	600	3.77	3.59
MR5020, R	43	50	200	600	4.05	3.86
MR5040, R	43	50	400	600	4.61	4.39

MULTI-CELL RECTIFIER DIODES

Motorola Type	Case	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
50 AMP RATING					
MR1205FL, R	100	300	800	$13.34	$12.70
MR1209FL, R	100	600	800	17.81	16.96
100 AMP RATING					
MR1215SL, R	167	300	2000	$16.76	$15.96
MR1219SL, R	167	600	2000	22.83	21.75
MR1815SL, R	189	300	2000	20.32	19.35
MR1819SL, R	189	600	2000	27.51	26.20

Motorola Type	Case	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
450 AMP RATING					
MR1245FL, R	128	300	8000	$61.31	$58.39
MR1249FL, R	128	600	8000	67.45	64.24
MR1245SL, R	135	300	8000	63.47	60.45
MR1249SL, R	135	600	8000	69.83	66.50
700 AMP RATING					
MR1265FL, R	136	300	12000	$102.92	$ 98.02
MR1269FL, R	136	600	12000	113.12	107.73

MOTOROLA Semiconductors — Silicon Rectifiers


Case 56


Case 257


Case 109


Case 312


Case 117


Case 309A


Case 100


Case 167
Case 189


Case 128


Case 135
Case 136

FAST RECOVERY RECTIFIERS

Motorola Type	Case	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
1 AMP RATING					
1N4933	59	50	30	$0.42	$0.40
1N4934	59	100	30	.46	.44
1N4935	59	200	30	.53	.51
1N4936	59	400	30	.57	.55
1N4937	59	600	30	.64	.61
1R810	59	50	30	.46	.44
1R811	59	100	30	.52	.49
1R812	59	200	30	.59	.56
1R814	59	400	30	.64	.61
1R816	59	600	30	.71	.68
1R817	59	800	30	.98	.93
1R818	59	1000	30	1.34	1.28
1R830, R	60	50	100	2.51	2.39
1R831, R	60	100	100	2.79	2.66
1R832, R	60	200	100	3.35	3.19
1R834, R	60	400	100	5.03	4.79
1R836, R	60	600	100	6.15	5.85
3 AMP RATING					
1R800	70	50	100	$2.51	$2.39
1R801	70	100	100	2.79	2.66
1R802	70	200	100	3.35	3.19
1R804	70	400	100	5.03	4.79
1R806	70	600	100	6.15	5.85
1R850	267	50	100	.91	.87
1R851	267	100	100	1.05	1.00
1R852	267	200	100	1.22	1.16
1R854	267	400	100	1.58	1.50
1R856	267	600	100	1.73	1.65
1R910	267	50	100	.84	.80
1R911	267	100	100	1.12	1.06
1R912	267	200	100	1.40	1.33
1R914	267	400	100	1.68	1.60
1R916	267	600	100	1.96	1.86
1R917	267	800	100	2.37	2.26
1R918	267	1000	100	2.79	2.66
5 AMP RATING					
1R820	194	50	300	$1.91	$1.82
1R821	194	100	300	2.17	2.06
1R822	194	200	300	2.42	2.30
1R824	194	400	300	3.41	3.25
1R826	194	600	300	5.73	5.45
6 AMP RATING					
1N3879, R	245	50	150	$2.51	$2.39
1N3879A, RA	245	50	150	1.91	1.82
1N3880, R	245	100	150	3.49	3.33
1N3880A, RA	245	100	150	2.17	2.06
1N3881, R	245	200	150	3.63	3.46
1N3881A, RA	245	200	150	2.42	2.30
1N3883, R	245	400	150	4.75	4.52
1N3883A, RA	245	400	150	3.41	3.25
1R1366, R	56	600	150	5.73	5.45
12 AMP RATING					
1N3889, R	245	50	200	$3.21	$3.06
1N3889A, RA	245	50	200	2.17	2.06
1N3890, R	245	100	200	3.77	3.59
1N3890A, RA	245	100	200	2.42	2.30
1N3891, R	245	200	200	4.33	4.12
1N3891A, RA	245	200	200	2.67	2.54
1N3893, R	56	400	200	6.01	5.72
1R1376, R	56	600	200	7.33	6.98
20 AMP RATING					
1N3899, R	42A	50	250	$4.57	$4.35
1N3900, R	42A	100	250	5.46	5.20
1N3901, R	42A	200	250	5.84	5.56
1N3903, R	257	400	250	8.25	7.86
1R1386, R	257	600	250	9.43	8.98
24 AMP RATING					
1R2400F	339	50	300	$2.03	$1.93
1R2401F	339	100	300	2.29	2.18
1R2402F	339	200	300	2.79	2.66
1R2404F	339	400	300	3.14	2.99
1R2406F	339	600	300	4.06	3.87
30 AMP RATING					
1N3909, R	257	50	300	$4.96	$4.72
1N3910, R	257	100	300	5.84	5.56
1N3911, R	257	200	300	6.36	6.05
1N3913, R	257	400	300	8.88	8.46
1R1396, R	257	600	300	9.92	9.44
40 AMP RATING					
1R860, R	42A	50	350	$5.71	$5.44
1R861, R	42A	100	350	6.36	6.05
1R862, R	42A	200	350	6.98	6.65
1R864, R	42A	400	350	10.03	9.55
1R866, R	42A	600	350	13.34	12.70

FAST RECOVERY RECTIFIERS (Cont.)

Motorola Type	Case	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
50 AMP RATING					
MR870, R	42A	50	400	$6.22	$5.92
MR871, R	42A	100	400	6.84	6.52
MR872, R	42A	200	400	7.49	7.13
MR874, R	42A	400	400	10.80	10.28
MR876, R	42A	600	400	14.22	13.54

RECTIFIER BRIDGES

Motorola Type	Case	VRRM Volts	IFSM Amps	Net Each, Lots 1-9	Net Each, Lots 10-49
1 AMP RATING					
MDA920A2	109	50	32	$2.61	$2.49
MDA920A3	109	100	32	3.02	2.87
MDA920A4	109	200	32	3.60	3.43
MDA920A6	109	400	32	3.84	3.66
MDA920A7	109	600	32	5.00	4.76
MDA100A	312	50	45	1.65	1.57
MDA101A	312	100	45	1.77	1.69
MDA102A	312	200	45	1.90	1.81
MDA104A	312	400	45	2.03	1.93
MDA106A	312	600	45	2.29	2.18
MDA108A	312	800	45	2.67	2.54
MDA110A	312	1000	45	3.04	2.90
3N246	312	50	45	1.65	1.57
3N247	312	100	45	1.77	1.69
3N248	312	200	45	1.90	1.81
3N249	312	400	45	2.03	1.93
3N250	312	600	45	2.29	2.18
3N251	312	800	45	2.67	2.54
3N252	312	1000	45	3.04	2.90
2 AMP RATING					
MDA200	312	50	60	$1.77	$1.69
MDA201	312	100	60	1.90	1.81
MDA202	312	200	60	2.03	1.93
MDA204	312	400	60	2.17	2.06
MDA206	312	600	60	2.42	2.30
MDA208	312	800	60	2.92	2.78
MDA210	312	1000	60	3.30	3.14
3N253	312	50	60	1.77	1.69
3N254	312	100	60	1.90	1.81
3N255	312	200	60	2.03	1.93
3N256	312	400	60	2.17	2.06
3N257	312	600	60	2.42	2.30
3N258	312	800	60	2.92	2.78
3N259	312	1000	60	3.30	3.14
4 AMP RATING					
MDA970-1	117	50	100	$4.37	$4.16
MDA970-2	117	100	100	4.97	4.74
MDA970-3	117	200	100	5.57	5.31
MDA970-5	117	400	100	6.97	6.64
8 AMP RATING					
MDA890	321	50	400	$ 7.82	$ 7.45
MDA891	321	100	400	8.66	8.25
MDA892	321	200	400	9.50	9.04
MDA894	321	400	400	11.17	10.64
MDA896	321	600	400	13.97	13.30
12 AMP RATING					
MDA980-1	309A	50	300	$4.46	$4.24
MDA980-2	309A	100	300	4.58	4.36
MDA980-3	309A	200	300	4.71	4.48
MDA980-5	309A	400	300	4.83	4.60
MDA980-6	309A	600	300	6.62	6.30
MDA1200	321	50	400	7.75	7.38
MDA1201	321	100	400	8.10	7.71
MDA1202	321	200	400	8.87	8.45
MDA1204	321	400	400	10.06	9.58
MDA1206	321	600	400	11.66	11.11
25 AMP RATING					
MDA2500	309A	50	400	$4.06	$3.87
MDA2501	309A	100	400	4.19	3.99
MDA2502	309A	200	400	4.32	4.11
MDA2504	309A	400	400	4.58	4.36
MDA2506	309A	600	400	6.10	5.81
35 AMP RATING					
MDA3500	309A	50	400	$4.46	$4.24
MDA3501	309A	100	400	4.58	4.36
MDA3502	309A	200	400	4.71	4.48
MDA3504	309A	400	400	4.83	4.60
MDA3506	309A	600	400	6.62	6.30
MDA3508	309A	800	400	7.88	7.50
MDA3510	309A	1000	400	10.06	9.58

MOTOROLA Semiconductors

SILICON CONTROLLED RECTIFIERS (THYRISTORS)


Case 22, TO-52


Case 29


Case 54


Case 61


Case 63


Case 77


Case 79


Case 86


Case 87L


Case 263


Case 310


Case 311


Case 174


Case 175


Case 90


Case 221


Case 182

SILICON CONTROLLED RECTIFIERS—IN PLASTIC CASE

Listed in order of on-state (rms) current.

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	At 25° C I_{GT} mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MCR101	29	15	0.8	0.8	0.2	$0.50	$0.48
MCR102	29	30	0.8	0.8	0.2	.75	.71
MCR103	29	60	0.8	0.8	0.2	.79	.75
MCR104	29	100	0.8	0.8	0.2	.90	.85
MCR115	29	150	0.8	0.8	0.2	.97	.92
MCR120	29	200	0.8	0.8	0.2	1.01	.96
MCR100-5	29	300	0.8	0.8	0.2	.57	.55
MCR100-6	29	400	0.8	0.8	0.2	.72	.69
MCR100-7	29	500	0.8	0.8	0.2	.88	.80
MCR100-8	29	600	0.8	0.8	0.2	1.09	1.03
2N5060	29	30	0.8	0.8	0.2	.59	.56
2N5061	29	60	0.8	0.8	0.2	.60	.57
2N5062	29	100	0.8	0.8	0.2	.69	.66
2N5063	29	150	0.8	0.8	0.2	.73	.70
2N5064	29	200	0.8	0.8	0.2	.84	.80
2N6236	77	30	4.0	0.8	0.2	.94	.89
2N6237	77	50	4.0	0.8	0.2	1.01	.96
2N6238	77	100	4.0	0.8	0.2	1.03	.98
2N6239	77	200	4.0	0.8	0.2	1.16	1.10
2N6240	77	400	4.0	0.8	0.2	1.61	1.54
2N6241	77	600	4.0	0.8	0.2	2.74	2.61
MCR106-1	77	30	4.0	1.0	0.5	.94	.89
MCR106-2	77	60	4.0	1.0	0.5	1.01	.96
MCR106-3	77	100	4.0	1.0	0.5	1.03	.98
MCR106-4	77	200	4.0	1.0	0.5	1.16	1.10
MCR106-5	77	300	4.0	1.0	0.5	1.41	1.34
MCR106-6	77	400	4.0	1.0	0.5	1.61	1.54
MCR106-7	77	500	4.0	1.0	0.5	2.64	2.51
MCR106-8	77	600	4.0	1.0	0.5	2.74	2.61
C106Y1	77	25	4.0	0.8	0.2	.53	.50
C106F1	77	50	4.0	0.8	0.2	.54	.52
C106A1	77	100	4.0	0.8	0.2	.57	.55
C106B1	77	200	4.0	0.8	0.2	.60	.57
C106C1	77	300	4.0	0.8	0.2	.68	.64
C106D1	77	400	4.0	0.8	0.2	.82	.78
C106E1	77	500	4.0	0.8	0.2	1.03	.98
C106M1	77	600	4.0	0.8	0.2	1.23	1.17
MCR3000-1	90	25	8.0	1.5	30.0	2.04	1.94
2N4441	90	50	8.0	1.5	30.0	2.07	1.97
MCR3000-1	90	100	8.0	1.5	30.0	2.13	2.03
2N4442	90	200	8.0	1.5	30.0	2.23	2.12
MCR3000-5	90	300	8.0	1.5	30.0	2.42	2.31
2N4443	90	400	8.0	1.5	30.0	3.04	2.89
MCR3000-7	90	500	8.0	1.5	30.0	3.48	3.41
2N4444	90	600	8.0	1.5	30.0	4.77	4.54
MCR3000-9	90	700	8.0	1.5	30.0	5.25	5.00
MCR3000-10	90	800	8.0	1.5	30.0	6.34	6.03

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	At 25° C I_{GT} mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
C122F1	221	50	8.0	1.5	25.0	$1.19	$1.13
C122A1	221	100	8.0	1.5	25.0	1.31	1.24
C122B1	221	200	8.0	1.5	25.0	1.41	1.34
C122C1	221	300	8.0	1.5	25.0	1.77	1.69
C122D1	221	400	8.0	1.5	25.0	1.99	1.90
C122E1	221	500	8.0	1.5	25.0	2.35	2.23
C122M1	221	600	8.0	1.5	25.0	2.93	2.79
S2800A	221	100	8.0	1.5	25.0	1.31	1.24
S2800B	221	200	8.0	1.5	25.0	1.42	1.36
S2800D	221	400	8.0	1.5	25.0	2.01	1.91
S2800M	221	600	8.0	1.5	25.0	3.02	2.88
S2800S	221	700	8.0	1.5	25.0	5.02	4.78
MCR72-1	221	25	8.0	1.5	0.2	1.16	1.10
MCR72-2	221	50	8.0	1.5	0.2	1.19	1.13
MCR72-3	221	100	8.0	1.5	0.2	1.36	1.30
MCR72-4	221	200	8.0	1.5	0.2	1.54	1.47
MCR72-5	221	300	8.0	1.5	0.2	1.75	1.66
MCR72-6	221	400	8.0	1.5	0.2	1.89	1.80
MCR72-7	221	500	8.0	1.5	0.2	2.38	2.26
MCR72-8	221	600	8.0	1.5	0.2	2.98	2.84
2N6394	221	50	12.0	1.5	30.0	1.83	1.75
2N6395	221	100	12.0	1.5	30.0	1.91	1.82
2N6396	221	200	12.0	1.5	30.0	1.89	1.89
2N6397	221	400	12.0	1.5	30.0	2.64	2.51
2N6398	221	600	12.0	1.5	30.0	4.12	3.92
2N6399	221	800	12.0	1.5	30.0	5.79	5.52
MCR220-5	221	300	12.0	1.5	30.0	2.42	2.31
MCR220-7	221	500	12.0	1.5	30.0	3.58	3.41
MCR220-9	221	700	12.0	1.5	30.0	5.06	4.82
2N6400	221	50	16.0	1.5	30.0	2.35	2.23
2N6401	221	100	16.0	1.5	30.0	2.64	2.51
2N6402	221	200	16.0	1.5	30.0	2.79	2.65
2N6403	221	400	16.0	1.5	30.0	3.77	3.59
2N6404	221	600	16.0	1.5	30.0	5.72	5.45
2N6405	221	800	16.0	1.5	30.0	8.71	8.30
MCR221-5	221	300	16.0	1.5	30.0	3.34	3.18
MCR221-7	221	500	16.0	1.5	30.0	4.79	4.57
MCR221-9	221	700	16.0	1.5	30.0	7.26	6.91
2N6504	221	50	25.0	1.5	40.0	2.89	2.75
2N6505	221	100	25.0	1.5	40.0	3.67	3.49
2N6506	221	200	25.0	1.5	40.0	4.94	4.71
2N6507	221	400	25.0	1.5	40.0	5.44	5.18
2N6508	221	600	25.0	1.5	40.0	6.99	6.66
2N6509	221	800	25.0	1.5	40.0	10.88	10.36

TRIGGER DEVICES

Ideal SCR or triac complements. Plastic case except Case 22, metal.

SILICON BIDIRECTIONAL SWITCH—SBS

Motorola Type	Case	V_S VDC	Maximum I_S μADC	Maximum I_H mADC	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MBS4991	29	6.0–10	500	1.5	$0.82	$0.78
MBS4992	29	7.5–9	120	0.5	1.61	1.54

BILATERAL TRIGGER DIACS (CASE 182)

Specifications given are for both directions.

Motorola Type	Nom. V_S V	Max. I_S μA	Min. ΔV V	Max. I_B μA	Net Each, Lots of 1-9	Net Each, Lots of 10-49
1N5758	20 ± 4.0	100	5.0	10	$0.69	$0.66
1N5758A	20 ± 2.0	25	5.0	10	.76	.73
1N5759	24 ± 4.0	100	5.0	10	1.25	1.19
1N5759A	24 ± 2.0	25	5.0	10	1.35	1.29
1N5760	28 ± 4.0	100	7.0	10	.69	.66
1N5760A	28 ± 2.0	25	7.0	10	1.25	1.19
1N5761	32 ± 4.0	100	7.0	10	.69	.66
1N5761A	32 ± 2.0	25	7.0	10	.76	.73
1N5762	36 ± 4.0	100	7.0	10	.69	.66
1N5762A	36 ± 2.0	25	7.0	10	1.25	1.19

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.

SILICON CONTROLLED RECTIFIERS (SCRs)—IN METAL CASE

Listed in order of on-state (rms) current.

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	At 25° C I_{GT} mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
1CR201	22	15	0.5	1.0	0.2	$ 1.07	$ 1.02
1CR202	22	30	0.5	1.0	0.2	1.17	1.12
1CR203	22	60	0.5	1.0	0.2	1.38	1.31
1CR204	22	100	0.5	1.0	0.2	1.47	1.40
1CR205	22	150	0.5	1.0	0.2	1.56	1.48
1CR206	22	200	0.5	1.0	0.2	1.67	1.59
N1595	79	50	1.6	3.0	10	1.76	1.68
N1596	79	100	1.6	3.0	10	2.45	2.33
N1597	79	200	1.6	3.0	10	3.37	3.21
N1598	79	300	1.6	3.0	10	3.96	3.77
N1599	79	400	1.6	3.0	10	9.34	8.90
N2322	79	25	1.6	0.8	0.1	2.29	2.18
N2323	79	50	1.6	0.8	0.1	2.80	2.67
N2324	79	100	1.6	0.8	0.1	3.52	3.35
N2325	79	150	1.6	0.8	0.1	5.13	4.98
N2326	79	200	1.6	0.8	0.1	6.55	6.24
N2327	79	250	1.6	0.8	0.1	9.15	8.71
N2328	79	300	1.6	0.8	0.1	10.12	9.64
N2329	79	400	1.6	0.8	0.1	13.33	12.70
N4212	79	25	1.6	0.8	0.1	2.10	2.00
N4213	79	50	1.6	0.8	0.1	2.51	2.39
N4214	79	100	1.6	0.8	0.1	2.93	2.79
N4215	79	150	1.6	0.8	0.1	3.87	3.69
N4216	79	200	1.6	0.8	0.1	5.07	4.83
N4217	79	250	1.6	0.8	0.1	5.73	5.46
N4218	79	300	1.6	0.8	0.1	8.37	7.97
N4219	79	400	1.6	0.8	0.1	12.48	11.88
1CR1906-1	79	25	1.6	1.0	1.0	1.80	1.72
1CR1906-2	79	50	1.6	1.0	1.0	1.91	1.82
1CR1906-3	79	100	1.6	1.0	1.0	2.17	2.07
1CR1906-4	79	200	1.6	1.0	1.0	2.36	2.25
1CR1906-5	79	300	1.6	1.0	1.0	4.99	4.75
1CR1906-6	79	400	1.6	1.0	1.0	7.43	7.08
N4167	86	25	8.0	1.5	30	6.35	6.05
N4168	86	50	8.0	1.5	30	6.44	6.13
N4169	86	100	8.0	1.5	30	6.70	6.38
N4170	86	200	8.0	1.5	30	6.88	6.55
N4171	86	300	8.0	1.5	30	7.13	6.79
N4172	86	400	8.0	1.5	30	7.57	7.21
N4173	86	500	8.0	1.5	30	8.59	8.18
N4174	86	600	8.0	1.5	30	10.38	9.89
N4183	87L	25	8.0	1.5	30	6.32	6.02
N4184	87L	50	8.0	1.5	30	6.39	6.09
N4185	87L	100	8.0	1.5	30	6.64	6.33
N4186	87L	200	8.0	1.5	30	6.83	6.51
N4187	87L	300	8.0	1.5	30	7.10	6.76
N4188	87L	400	8.0	1.5	30	7.55	7.19
N4189	87L	500	8.0	1.5	30	8.58	8.17
N4190	87L	600	8.0	1.6	30	10.34	9.85
N3668	54	100	12.5	2.0	40	5.19	4.94
N3669	54	200	12.5	2.0	40	6.86	6.54
N3670	54	400	12.5	2.0	40	10.12	9.64
N4103	54	600	12.5	2.0	40	14.28	13.60
N1842	263	25	16	2.0	80	4.25	4.05
N1843	263	50	16	2.0	80	4.40	4.19
N1844	263	100	16	2.0	80	4.77	4.54
N1845	263	150	16	2.0	80	5.56	5.29
N1846	263	200	16	2.0	80	6.47	6.16
N1847	263	250	16	2.0	80	7.41	7.05
N1848	263	300	16	2.0	80	8.01	7.63
N1849	263	400	16	2.0	80	9.52	9.06
N1850	263	500	16	2.0	80	11.01	10.49
N1842A	263	25	16	2.0	80	4.33	4.12
N1843A	263	50	16	2.0	80	4.47	4.26
N1844A	263	100	16	2.0	80	4.84	4.61
N1845A	263	150	16	2.0	80	5.63	5.36
N1846A	263	200	16	2.0	80	6.54	6.23
N1847A	263	250	16	2.0	80	7.48	7.12
N1848A	263	300	16	2.0	80	8.08	7.69
N1849A	263	400	16	2.0	80	9.59	9.13
N1850A	263	500	16	2.0	80	11.09	10.56
N5164	310	50	20	1.5	40	3.81	3.63
N5165	310	200	20	1.5	40	4.18	3.98
N5166	310	400	20	1.5	40	5.50	5.24
N5167	310	600	20	1.5	40	7.26	6.91
N5168	263	50	20	1.5	40	4.31	4.11
N5169	263	200	20	1.5	40	4.74	4.51
N5170	263	400	20	1.5	40	5.98	5.70
N5171	263	600	20	1.5	40	7.74	7.37
N6167	311	100	20	1.5	40	5.62	5.35
N6168	311	200	20	1.5	40	5.81	5.53
N6169	311	400	20	1.5	40	7.67	7.30
N6170	311	600	20	1.5	40	9.44	8.99
MCR649AP-1	54	25	20	3.5	40	5.46	5.20
MCR649AP-2	54	50	20	3.5	40	6.60	6.28
MCR649AP-3	54	100	20	3.5	40	8.26	7.86
MCR649AP-4	54	200	20	3.5	40	8.81	8.39
MCR649AP-5	54	300	20	3.5	40	10.66	10.15
MCR649AP-6	54	400	20	3.5	40	12.55	11.95
MCR649AP-7	54	500	20	3.5	40	14.84	14.13
MCR649AP-8	54	600	20	3.5	40	17.07	16.26
MCR649AP-9	54	700	20	3.5	40	18.73	17.83
MCR649AP-10	54	800	20	3.5	40	19.58	18.64

Motorola Type	Case	V_{FOM} V_{ROM} V	I_T rms A	At 25° C V_{GT} V	At 25° C I_{GT} mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MCR3818-1	174	25	20	1.5	40	$ 3.18	$ 3.03
MCR3818-2	174	50	20	1.5	40	3.31	3.16
MCR3818-3	174	100	20	1.5	40	3.43	3.27
MCR3818-4	174	200	20	1.5	40	3.64	3.46
MCR3818-5	174	300	20	1.5	40	4.62	4.40
MCR3818-6	174	400	20	1.5	40	5.50	5.24
MCR3818-7	174	500	20	1.5	40	6.60	6.28
MCR3818-8	174	600	20	1.5	40	7.26	6.91
MCR3818-9	174	700	20	1.5	40	8.36	7.96
MCR3818-10	174	800	20	1.5	40	10.27	9.78
MCR3918-1	175	25	20	1.5	40	3.67	3.49
MCR3918-2	175	50	20	1.5	40	3.75	3.58
MCR3918-3	175	100	20	1.5	40	3.92	3.73
MCR3918-4	175	200	20	1.5	40	4.12	3.92
MCR3918-5	175	300	20	1.5	40	5.09	4.85
MCR3918-6	175	400	20	1.5	40	5.98	5.70
MCR3918-7	175	500	20	1.5	40	7.07	6.73
MCR3918-8	175	600	20	1.5	40	7.74	7.37
MCR3918-9	175	700	20	1.5	40	8.96	8.53
MCR3918-10	175	800	20	1.5	40	10.88	10.36
2N2573	61	25	25	3.5	40	5.51	5.25
2N2574	61	50	25	3.5	40	6.55	6.24
2N2575	61	100	25	3.5	40	7.99	7.61
2N2576	61	200	25	3.5	40	8.48	8.07
2N2577	61	300	25	3.5	40	10.09	9.61
2N2578	61	400	25	3.5	40	10.66	10.15
2N2579	61	500	25	3.5	40	12.46	11.87
MCR649-8	61	600	25	3.5	40	17.32	16.49
MCR649-9	61	700	25	3.5	40	19.03	18.13
MCR649-10	61	800	25	3.5	40	19.84	18.90
2N681	263	25	25	3.0	40	3.43	3.27
2N682	263	50	25	3.0	40	4.14	3.94
2N683	263	100	25	3.0	40	5.23	4.99
2N684	263	150	25	3.0	40	6.15	5.85
2N685	263	200	25	3.0	40	7.05	6.72
2N686	263	250	25	3.0	40	7.86	7.49
2N687	263	300	25	3.0	40	8.46	8.06
2N688	263	400	25	3.0	40	9.88	9.41
2N689	263	500	25	3.0	40	11.80	11.24
2N690	263	600	25	3.0	40	12.71	12.11
2N691	263	700	25	3.0	40	17.30	16.48
2N692	263	800	25	3.0	40	19.80	18.85
MCR3835-1	174	25	35	1.6	40	4.11	3.91
MCR3835-2	174	50	35	1.6	40	4.50	4.29
2N3870	174	100	35	1.6	40	5.32	5.07
2N3871	174	200	35	1.6	40	6.66	6.34
MCR3835-5	174	300	35	1.6	40	8.07	7.68
2N3872	174	400	35	1.6	40	8.71	8.30
MCR3835-7	174	500	35	1.6	40	9.84	9.37
2N3873	174	600	35	1.6	40	10.76	10.25
MCR3935-1	175	25	35	1.6	40	4.40	4.19
MCR3935-2	175	50	35	1.6	40	4.87	4.64
2N1896	175	100	35	1.6	40	5.81	5.53
2N1897	175	200	35	1.6	40	7.14	6.80
MCR3935-5	175	300	35	1.6	40	8.65	8.24
2N1898	175	400	35	1.6	40	9.19	8.76
MCR3935-7	175	500	35	1.6	40	10.27	9.78
2N1899	175	600	35	1.6	40	11.25	10.71
2N6171	311	100	35	1.6	40	6.60	6.28
2N6172	311	200	35	1.6	40	8.12	7.74
2N6173	311	400	35	1.6	40	10.90	10.38
2N6174	311	600	35	1.6	40	12.98	12.36
MCR63-1	310	25	55	3.0	40	6.36	6.04
MCR63-2	310	50	55	3.0	40	6.72	6.38
MCR63-3	310	100	55	3.0	40	7.08	6.72
MCR63-4	310	200	55	3.0	40	7.32	6.95
MCR63-5	310	300	55	3.0	40	7.55	7.18
MCR63-6	310	400	55	3.0	40	8.26	7.85
MCR63-7	310	500	55	3.0	40	9.20	8.74
MCR63-8	310	600	55	3.0	40	10.52	9.99
MCR63-9	310	700	55	3.0	40	12.30	11.69
MCR63-10	310	800	55	3.0	40	14.40	13.68
MCR64-1	263	25	55	3.0	40	6.86	6.52
MCR64-2	263	50	55	3'0	40	7.21	6.85
MCR64-3	263	100	55	3.0	40	7.58	7.20
MCR64-4	263	200	55	3.0	40	7.81	7.42
MCR64-5	263	300	55	3.0	40	8.06	7.66
MCR64-6	263	400	55	3.0	40	8.75	8.31
MCR64-7	263	500	55	3.0	40	9.71	9.22
MCR64-8	263	600	55	3.0	40	11.35	10.78
MCR64-9	263	700	55	3.0	40	13.13	12.47
MCR64-10	263	800	55	3.0	40	14.91	14.16
MCR65-1	311	25	55	3.0	40	7.69	7.30
MCR65-2	311	50	55	3.0	40	8.05	7.65
MCR65-3	311	100	55	3.0	40	8.42	8.00
MCR65-4	311	200	55	3.0	40	8.65	8.21
MCR65-5	311	300	55	3.0	40	8.90	8.45
MCR65-6	311	400	55	3.0	40	9.59	9.11
MCR65-7	311	500	55	3.0	40	10.55	10.02
MCR65-8	311	600	55	3.0	40	12.18	11.57
MCR65-9	311	700	55	3.0	40	13.97	12.27
MCR65-10	311	800	55	3.0	40	15.73	14.95

MOTOROLA Semiconductors

SILICON POWER TRANSISTORS


Case 11
Case 197


Case 80


Case 31


Case 77


Case 90


Case 152


Case 221A


Case 306


Case 79


Case 168

SILICON POWER TRANSISTORS

Listed in order of I_C Cont. and BV_{CEO}. P_D at 25° C.

Motorola Type	Case	h_{FE} at I_C Min.-Max.	h_{FE} at I_C A	BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each 1-9	Net Each 10-49
NPN								
D40N1	306	30–90	0.02	250	6.25	0.1	$1.20	$1.15
D40N2	306	60–180	0.02	250	6.25	0.1	1.29	1.23
D40N3	306	30–90	0.02	300	6.25	0.1	1.39	1.33
D40N4	306	60–180	0.02	300	6.25	0.1	1.48	1.41
MJE3440	77	40–160	0.02	250	15	0.3	1.12	1.06
MJE3439	77	40–160	0.02	350	15	0.3	1.32	1.26
D40C1	306	10K–60K	0.2	30	6.25	0.5	.85	.81
D40C2	306	40K min.	0.2	30	6.25	0.5	1.20	1.15
D40C4	306	10K–60K	0.2	40	6.25	0.5	.97	.92
D40C5	306	40K min.	0.2	40	6.25	0.5	1.39	1.33
MPSU31	152	30 min.	0.03	65	10	0.5	1.48	1.41
D40P1	306	40 min.	0.08	120	6.25	0.5	1.26	1.20
2N6591	306	40–200	0.1	150	10	0.5	1.19	1.13
D40P3	306	40 min.	0.08	180	6.25	0.5	1.41	1.34
MJE341	77	25–200	0.05	150	20.8	0.5	1.25	1.19
MJE344	77	30–300	0.05	200	20.8	0.5	1.31	1.24
2N6592	306	30–200	0.1	200	10	0.5	1.32	1.26
D40P5	306	40 min.	0.08	225	6.25	0.5	1.70	1.62
2N5655	77	30–250	0.1	250	20	0.5	1.39	1.33
2N6557	306	40–180	0.03	250	10	0.5	1.09	1.03
2N6593	306	30–200	0.1	250	10	0.5	1.47	1.40
MDS20	306	40–250	0.03	250	10	0.5	1.09	1.03
MJE340	77	30–240	0.05	300	20.8	0.5	1.57	1.49
MDS21	306	40–250	0.03	300	10	0.5	1.19	1.13
2N6558	306	40–180	0.03	300	10	0.5	1.19	1.13
MPSU10	152	30 min.	0.03	300	10	0.5	1.23	1.17
MJE340	77	30–240	0.05	300	20.8	0.5	1.57	1.49
2N5656	77	30–250	0.1	300	20	0.5	1.63	1.55
2N6559	306	40–180	0.03	350	10	0.5	1.39	1.33
2N5657	77	30–250	0.1	350	20	0.5	1.92	1.83
MJE-2360T	221A	15 min.	0.1	350	30	0.5	1.58	1.51
MJE-2361T	221A	40 min.	0.1	350	30	0.5	2.08	1.98
MPSU02	152	30 min.	0.5	40	10	0.8	1.06	1.01
D40D1	79	10 min.	1.0	30	10	1.0	.85	.81
D40D2	79	20 min.	1.0	30	10	1.0	1.07	1.02
TIP29	221A	15–75	1.0	40	30	1.0	.81	.77
2N4921	77	20–100	0.5	40	30	1.0	1.70	1.62
D40D4	306	10 min.	1.0	45	10	1.0	1.01	.96
D40D5	306	10 min.	1.0	45	10	1.0	1.17	1.12
D40D7	306	10 min.	1.0	60	10	1.0	1.13	1.08
D40D8	306	10 min.	1.0	60	10	1.0	1.26	1.20
2N6551	306	25 min.	0.5	60	10	1.0	1.00	.95
TIP29A	221A	15–75	1.0	60	30	1.0	.87	.82
2N4922	77	20–100	0.5	60	30	1.0	1.98	1.89
D40D10	306	10 min.	1.0	75	10	1.0	1.35	1.29
D40D11	306	10 min.	1.0	75	10	1.0	1.41	1.34
D40D13	306	50–150	0.1	75	10	1.0	1.13	1.08
D40D14	306	50–150	0.1	75	10	1.0	1.41	1.34
2N4923	77	20–100	0.5	80	30	1.0	2.27	2.17
2N3019	79	50 min.	0.5	80	5	1.0	1.07	1.02
2N3020	79	30–100	0.5	80	5	1.0	5.57	5.31
2N4912	80	20–100	0.5	80	25	1.0	1.88	1.79
2N6552	306	25 min.	0.5	80	10	1.0	1.09	1.03
TIP29B	221A	15–75	1.0	80	30	1.0	.94	.89
2N5681	79	40–150	0.25	100	10	1.0	1.76	1.68
2N6553	306	25 min.	0.5	100	10	1.0	1.19	1.13
TIP29C	221A	15–75	1.0	100	30	1.0	1.03	.98
MPSU03	152	40 min.	0.01	120	10	1.0	1.19	1.13
2N3583	80	40–200	0.5	175	35	1.0	1.60	1.52
MPSU04	152	40 min.	0.01	180	10	1.0	1.25	1.19
2N3738	80	40–200	0.1	225	20	1.0	2.26	2.15
2N3440	79	40–160	0.02	250	5	1.0	1.32	1.26
TIP47	221A	30–150	0.3	250	40	1.0	1.25	1.19
TIP48	221A	30–150	0.3	300	40	1.0	1.32	1.26
2N3739	80	40–200	0.1	300	20	1.0	2.84	2.71
2N3439	79	40–160	0.02	350	5	1.0	1.60	1.52
TIP49	221A	30–150	0.3	350	40	1.0	1.39	1.33
TIP50	221A	30–150	0.3	400	40	1.0	1.63	1.55
2N3734	79	30–120	1.0	50	4	1.5	3.59	3.42
2N3735	79	20–80	1.0	75	4	1.5	7.11	6.77
MJ4360	80	5–25	1.0	300	40	1.5	1.88	1.79
MJE13002	77	5–25	1.0	300	40	1.5	1.69	1.61
MJ4361	80	5–25	1.0	400	40	1.5	2.27	2.17
MJE13003	77	5–25	1.0	400	40	1.5	2.11	2.01
MPSU01	152	50 min.	1.0	30	10	2.0	1.00	.95
D40E1	306	10 min.	1.0	30	8	2.0	.91	.87
D40K1	306	1K min.	1.5	30	10	2.0	1.12	1.06
D40K3	306	1K min.	1.0	30	10	2.0	1.14	1.09
2N5859	79	30–120	0.5	40	5	2.0	1.58	1.51
MPSU01A	152	50 min.	1.0	40	10	2.0	1.09	1.03

Motorola Type	Case	h_{FE} at I_C Min.-Max.	h_{FE} at I_C A	BV_{CEO} Volts	P_D W	Max. I_C Cont. Amps	Net Each 1-9	Net Each 10-49
NPN CONTINUED								
MPSU45	152	4K min.	1.0	40	10	2.0	$ 1.25	$ 1.19
2N6548	306	5K min.	1.0	40	10	2.0	1.35	1.28
2N6549	306	3K min.	1.0	40	10	2.0	1.14	1.08
D40K2	306	1K min.	1.5	50	10	2.0	1.26	1.20
D40K4	306	1K min.	1.0	50	10	2.0	1.29	1.23
2N5861	79	25–120	0.5	60	5	2.0	2.57	2.44
MPSU05	152	60 min.	0.25	60	10	2.0	1.00	.95
D40E5	306	10 min.	1.0	60	8	2.0	1.17	1.12
TIP110	221A	500 min.	2.0	60	50	2.0	1.36	1.30
MPSU06	152	60 min.	0.25	80	10	2.0	1.09	1.03
D40E7	306	10 min.	1.0	80	8	2.0	1.41	1.34
TIP111	221A	500 min.	2.0	80	50	2.0	1.42	1.36
MM3007	79	50–250	0.25	100	8	2.0	4.25	4.05
MPSU07	152	30 min.	0.25	100	10	2.0	1.19	1.13
TIP112	221A	500 min.	2.0	100	50	2.0	1.51	1.44
2N5050	80	25–100	0.75	125	40	2.0	3.46	3.30
2N5051	80	25–100	0.75	150	40	2.0	4.46	4.25
2N5052	80	25–100	0.75	200	40	2.0	4.96	4.72
2N3584	80	25–100	1.0	250	35	2.0	2.35	2.23
2N3585	80	25–100	1.0	300	35	2.0	2.42	2.31
MJE-12007	221A	1.1 min.	2.0	750	65	2.5	4.46	4.25
BU204	11	2 min.	2.0	1300	36	2.5	3.96	3.77
BU205	11	2 min.	2.0	1500	36	2.5	5.65	5.38
MJ12002	11	1.1 min.	2.0	1500	75	2.5	4.85	4.62
MJE520	77	25 min.	1.0	30	25	3.0	1.26	1.20
MDS26	306	30 min.	1.0	40	10	3.0	1.19	1.13
MJE180	77	50–250	0.1	40	12.5	3.0	1.03	.98
MJE31	77	25 min.	1.0	40	40	3.0	1.01	.96
TIP31	221A	25 min.	1.0	40	40	3.0	.92	.88
2N3506	79	40–200	1.5	60	5	3.0	19.50	18.57
MDS27	306	30 min.	1.0	60	10	3.0	1.29	1.23
MJE181	77	50–250	0.1	60	12.5	3.0	1.07	1.02
MJE31A	77	25 min.	1.0	60	40	3.0	1.06	1.01
TIP31A	221A	25 min.	1.0	60	40	3.0	.98	.94
MJE182	77	50–250	0.1	80	12.5	3.0	1.17	1.12
MJE31B	77	25 min.	1.0	80	40	3.0	1.13	1.08
TIP31B	221A	25 min.	1.0	80	40	3.0	1.06	1.01
2N3507	79	40–200	1.5	80	5	3.0	22.07	21.02
2N3441	80	25–100	0.5	100	25	3.0	1.47	1.40
MJE31C	77	25 min.	1.0	100	40	3.0	1.20	1.15
TIP31C	221A	25 min.	1.0	100	40	3.0	1.14	1.09
2N5838	11	8–40	3.0	250	100	3.0	2.87	2.74
2N5839	11	10–50	2.0	275	100	3.0	3.17	3.02
2N5840	11	10–50	2.0	350	100	3.0	3.56	3.39
2N3902	11	30–90	1.0	325	100	3.5	6.94	6.61
MJE3300	77	1K min.	1.0	40	15	4.0	1.58	1.51
2N5190	77	25–100	1.5	40	40	4.0	1.53	1.45
2N6037	77	750–18K	2.0	40	40	4.0	2.02	1.93
MJE521	77	40 min.	1.0	40	40	4.0	1.63	1.55
2N6121	221A	25–100	1.5	45	40	4.0	.98	.94
2N3054	80	25–100	0.5	60	75	4.0	1.72	1.63
2N3054A	80	25–100	0.5	60	75	4.0	1.69	1.61
2N3766	80	40–160	0.5	60	20	4.0	2.19	2.08
MJE3301	77	1K min.	1.0	60	15	4.0	1.80	1.72
2N5191	77	25–100	1.5	60	40	4.0	1.79	1.70
MJE800	77	750 min.	1.5	60	40	4.0	1.76	1.68
2N6122	221A	25–100	1.5	60	40	4.0	1.09	1.03
2N6294	80	750–18K	2.0	60	50	4.0	2.38	2.26
MJE801	77	750 min.	2.0	60	40	4.0	1.94	1.84
2N6038	77	750–18K	2.0	60	40	4.0	2.24	2.14
MJE800T	221A	750 min.	1.5	60	40	4.0	1.53	1.45
MJE801T	221A	750 min.	2.0	60	40	4.0	1.75	1.66
2N6039	77	750–18K	2.0	80	40	4.0	2.61	2.49
MJE803	77	750 min.	2.0	80	40	4.0	2.33	2.22
MJE802T	221A	750 min.	1.5	80	40	4.0	1.79	1.70
MJE803T	221A	750 min.	2.0	80	40	4.0	2.08	1.98
MJE241	77	40–120	0.2	80	15	4.0	1.80	1.72
2N4912	80	20–100	0.5	80	25	4.0	1.88	1.79
2N3767	80	40–160	0.5	80	20	4.0	2.49	2.37
MJE3302	77	1K min.	1.0	80	15	4.0	2.02	1.93
2N5192	77	25–100	1.5	80	40	4.0	2.08	1.98
MJE802	77	750 min.	1.5	80	40	4.0	2.04	1.94
2N6123	221A	20–80	1.5	80	40	4.0	1.16	1.10
2N6295	80	750–18K	2.0	80	50	4.0	2.58	2.46
MJE243	77	40–120	0.2	100	15	4.0	2.02	1.93
MJ4380	80	8–40	2.0	300	75	4.0	2.87	2.74
MJE-13004	221A	6–30	3.0	300	60	4.0	2.67	2.54

POWER TRANSISTOR LISTING CONTINUED ON NEXT PAGE

SILICON POWER TRANSISTORS (Cont'd)

For illustrations, see previous page.

Motorola Type	Case	hFE at IC Min.-Max.	hFE at IC A	BVCEO Volts	PD W	Max. IC Cont. Amps	Net Each 1-9	Net Each 10-49
NPN (CONTINUED)								
4381	80	8–40	2.0	400	75	4.0	$ 3.56	$ 3.39
E-005	221A	6–30	3.0	400	60	4.0	3.37	3.21
E200	77	45–180	2.0	25	15	5.0	1.39	1.33
5067	11	20–180	1.0	40	87.5	5.0	1.58	1.51
4231A	80	25–100	1.5	40	75	5.0	1.63	1.55
5977	90	20–120	2.5	40	75	5.0	2.48	2.36
4904	11	25–100	2.5	40	87.5	5.0	2.48	2.36
E205	90	25–100	2.0	50	65	5.0	2.87	2.74
5068	11	20–180	1.0	60	87.5	5.0	1.79	1.70
4232A	80	25–100	1.5	60	75	5.0	1.88	1.79
5978	90	25–100	2.5	60	75	5.0	2.82	2.68
4914	11	25–100	2.5	60	87.5	5.0	2.08	1.98
E1100	90	750 min.	3.0	60	70	5.0	3.04	2.89
E1101	90	750 min.	4.0	60	70	5.0	3.27	3.11
P120	221A	1K min.	3.0	60	65	5.0	1.70	1.62
P121	221A	1K min.	3.0	80	65	5.0	1.91	1.82
5069	11	20–180	1.0	80	87.5	5.0	1.98	1.89
4233A	80	25–100	1.5	80	75	5.0	2.35	2.23
5336	79	30–120	2.0	80	10	5.0	7.13	6.79
5337	79	60–240	2.0	80	10	5.0	8.42	8.02
5979	90	20–120	2.5	80	75	5.0	3.37	3.21
4915	11	25–100	2.5	80	87.5	5.0	2.38	2.26
E1102	90	750 min.	3.0	80	70	5.0	3.61	3.44
E1103	90	750 min.	4.0	80	70	5.0	3.95	3.76
5338	79	30–120	2.0	100	10	5.0	9.11	8.67
5339	79	60–240	2.0	100	10	5.0	10.00	9.53
P122	221A	1K min.	3.0	100	75	5.0	2.19	2.08
4347	11	15–60	2.0	120	100	5.0	2.05	1.96
1410	11	30–90	1.0	200	100	5.0	3.67	3.49
6233	80	25–125	1.0	225	50	5.0	7.55	7.19
3029	11	30 min.	0.4	250	125	5.0	3.59	3.42
1800	11	40–120	0.4	250	100	5.0	4.40	4.19
6497	221A	10–75	2.5	250	80	5.0	2.93	2.79
E51T	221A	5 min.	5.0	250	80	5.0	2.86	2.72
6234	80	25–125	1.0	275	50	5.0	7.84	7.47
5838	11	8–40	3.0	250	100	5.0	2.87	2.74
5839	11	10–50	2.0	275	100	5.0	3.17	3.02
1411	11	30–90	1.0	300	100	5.0	4.03	3.84
6542	11	7–35	3.0	300	100	5.0	3.56	3.39
4400	80	12–60	1.5	300	100	5.0	3.56	3.39
E52T	221A	5 min.	5.0	300	80	5.0	3.37	3.21
6498	221A	10–75	2.5	300	80	5.0	3.52	3.35
6235	80	25–125	1.0	325	50	5.0	8.14	7.75
3030	11	4 min.	3.0	325	125	5.0	5.50	5.24
5241	11	15–35	2.5	325	125	5.0	17.82	16.97
5840	11	10–50	2.0	350	100	5.0	3.56	3.39
E53T	221A	5 min.	5.0	350	80	5.0	4.47	4.26
6499	221A	10–75	2.5	350	80	5.0	5.13	4.89
6543	11	7–35	3.0	400	100	5.0	4.36	4.15
207	11	2 min.	4.5	1300	125	5.0	5.54	5.28
208	11	2 min.	4.5	1500	125	5.0	7.63	7.26
12004	11	2.5 min.	4.5	1500	100	5.0	6.15	5.85
P41	221A	15–75	3.0	40	65	6.0	1.19	1.13
P41A	221A	15–75	3.0	60	65	6.0	1.29	1.23
P41B	221A	15–75	3.0	80	65	6.0	1.35	1.29
P41C	221A	15–75	3.0	100	65	6.0	1.57	1.49
5758	11	25–100	3.0	100	150	6.0	1.69	1.61
5759	11	20–80	3.0	120	150	6.0	1.88	1.79
5760	11	15–60	3.0	140	150	6.0	2.19	2.08
J15011	11	20–100	2.0	250	200	6.0	4.75	4.52
6288	221A	30–150	3.0	30	40	7.0	1.01	.96
6290	221A	30–150	2.5	50	40	7.0	1.07	1.02
6315	80	20–100	2.5	60	90	7.0	1.76	1.68
6292	221A	30–150	3.0	70	40	7.0	1.07	1.02
5427	80	30–120	2.0	80	40	7.0	4.36	4.15
5346	160	30–120	2.0	80	40	7.0	22.76	21.67
5428	80	60–240	2.0	80	40	7.0	4.56	4.34
5347	160	60–240	2.0	80	60	7.0	25.73	24.51
6316	80	20–100	2.5	80	90	7.0	1.97	1.87
5429	80	30–120	2.0	100	40	7.0	4.75	4.52
5348	160	30–120	2.0	100	60	7.0	26.73	25.46
5430	80	60–240	2.0	100	40	7.0	4.96	4.72
5349	160	60–240	2.0	100	60	7.0	32.67	31.11
6078	80	12–70	1.2	250	45	7.0	5.44	5.18
6077	80	12–70	1.2	275	45	7.0	3.96	3.77
J3040	11	100 min.	2.5	300	100	7.0	7.70	7.33
J3041	11	250 min.	2.5	300	100	7.0	9.83	9.36
J3042	11	250 min.	2.5	350	100	7.0	12.10	11.52
3445	11	20–60	3.0	60	115	7.5	5.84	5.56
3447	11	40–120	5.0	60	115	7.5	7.42	7.07
3446	11	20–60	3.0	80	115	7.5	6.34	6.03
3448	11	40–120	5.0	80	115	7.5	7.92	7.54
5983	90	20–120	4.0	40	90	8.0	2.64	2.51
6386	221A	1K–20K	3.0	40	65	8.0	1.39	1.33
6043	221A	1K–10K	4.0	60	75	8.0	2.57	2.44
P100	221A	1K–20K	3.0	60	80	8.0	1.45	1.38
J1000	11	1K min.	3.0	60	90	8.0	2.19	2.08
P120	221A	1K min.	3.0	60	65	8.0	1.70	1.62
5984	90	20–120	4.0	60	90	8.0	2.98	2.84
6300	80	750–18K	4.0	60	75	8.0	2.27	2.17
6055	11	750–18K	4.0	60	100	8.0	2.02	1.93
JE6043	90	1K–20K	4.0	60	75	8.0	2.67	2.54
J1001	11	1K min.	3.0	80	90	8.0	2.58	2.46
P121	221A	1K min.	3.0	80	65	8.0	1.91	1.82
5985	90	20–120	4.0	80	90	8.0	3.64	3.46
6301	80	750–1K	4.0	80	75	8.0	2.48	2.36
6056	11	750–1K	4.0	80	100	8.0	2.48	2.36
JE6044	90	1K–20K	4.0	80	75	8.0	3.01	2.86
6056	11	750–18K	4.0	80	100	8.0	2.48	2.36
6044	221A	1K–10K	4.0	80	75	8.0	2.79	2.65
TIP101	221A	1K–20K	3.0	80	80	8.0	1.61	1.54
6045	221A	1K–10K	3.0	100	75	8.0	3.01	2.86
TIP102	221A	1K–20K	3.0	100	80	8.0	1.91	1.82
JE6045	90	1K–20K	4.0	100	75	8.0	3.43	3.27
TIP121	221A	1K min.	3.0	100	75	8.0	2.19	2.08
MJE-15024	221A	20 min.	4.0	120	50	8.0	2.27	2.17
MJE-15030	221A	20 min.	4.0	150	50	8.0	2.58	2.46
3306	11	15–75	3.0	250	125	8.0	3.86	3.67
3307	11	15–75	3.0	300	125	8.0	4.75	4.52
6544	11	7–35	5.0	300	125	8.0	6.34	6.03
MJE-13005	221A	6–30	5.0	300	80	8.0	4.09	3.90
3308	11	12–60	3.0	350	125	8.0	6.83	6.51
MJE-13007	221A	6–30	5.0	400	80	8.0	5.15	4.90
6545	11	7–35	5.0	400	125	8.0	7.63	7.26
MJ10011	11	20 min.	4.0	1400	80	8.0	6.94	6.61
MJ12005	11	5 min.	5.0	1500	100	8.0	7.23	6.89
2N6383	11	1K–20K	5.0	40	100	10	2.21	2.11
MJE2801	90	25–100	3.0	60	90	10	2.64	2.51
2N3713	11	15 min.	3.0	60	150	10	2.08	1.98
2N3715	11	30 min.	3.0	60	150	10	2.08	1.98
MJE3055	90	20–70	4.0	60	90	10	2.64	2.51
2N5877	11	20–100	4.0	60	150	10	2.08	1.98
MJ3000	11	1K min.	5.0	60	150	10	4.06	3.87
2N6384	11	1K–20K	5.0	60	100	10	2.48	2.36
MJE-3055T	221A	25–100	3.0	60	75	10	1.29	1.23
2N6387	221A	1K–20K	5.0	60	65	10	1.54	1.47
SE9300	221A	100 min.	4.0	60	70	10	2.57	2.44
2N6385	11	1K–20K	5.0	80	100	10	2.67	2.54
2N6388	221A	1K–20K	5.0	80	65	10	1.73	1.65
D44H10	221A	20 min.	4.0	80	50	10	1.98	1.89
D44H11	221A	40 min.	4.0	80	50	10	2.14	2.04
SE9301	221A	100 min.	4.0	80	70	10	2.79	2.65
2N3714	11	15 min.	3.0	80	150	10	2.27	2.17
2N3716	11	30 min.	3.0	80	150	10	2.27	2.17
2N5878	11	20–100	4.0	80	150	10	2.57	2.44
MJ3001	11	1K min.	5.0	80	150	10	4.75	4.52
2N5632	11	25–100	5.0	100	150	10	2.98	2.84
SE9302	221A	100 min.	4.0	100	70	10	3.01	2.86
2N5631	11	20–80	5.0	120	150	10	3.56	3.39
2N5634	11	15–60	5.0	140	150	10	4.36	4.15
2N3442	11	20–70	4.0	140	200	10	2.19	2.08
MJ15011	11	20–100	2.0	250	200	10	4.75	4.52
MJ413	11	20–80	0.5	325	125	10	3.74	3.56
MJ423	11	30–90	1.0	325	125	10	6.09	5.80
MJ431	11	15–35	2.5	325	125	10	7.85	7.47
MJ9000	11	4 min.	6.0	325	125	10	10.70	10.19
MJ10002	11	30–300	5.0	350	150	10	6.44	6.13
MJ10006	11	30–300	5.0	350	150	10	7.92	7.54
MJ13014	11	8–20	5.0	350	150	10	8.51	8.10
MJ10003	11	30–300	5.0	400	150	10	7.92	7.54
MJ10007	11	30–300	5.0	400	150	10	9.40	8.95
MJ10012	11	100–2K	6.0	400	175	10	5.44	5.18
MJ13015	11	8–20	5.0	400	150	10	9.68	9.22
SDT13304	11	10–40	5.0	450	125	10	10.85	10.33
SDT13305	11	10–40	5.0	500	125	10	12.83	12.22
MJ12010	11	4.2	5.0	950	100	10	6.15	5.85
2N6569	11	15–200	4.0	40	100	12	1.17	1.12
2N5989	90	20–120	6.0	40	100	12	3.56	3.39
2N5990	90	20–120	6.0	60	100	12	3.96	3.77
2N6057	11	750–18K	6.0	60	150	12	3.67	3.49
2N5991	90	20–120	6.0	80	100	12	4.36	4.15
2N6058	11	750–18K	6.0	80	150	12	3.96	3.77
2N6059	11	750–18K	6.0	100	150	12	4.65	4.43
MJE-13008	221A	6–30	8.0	300	100	12	6.53	6.22
MJE-13009	221A	6–30	8.0	400	100	12	7.82	7.44
MJE1660	90	20–100	5.0	40	90	15	3.43	3.27
2N6486	221A	20–150	5.0	40	75	15	1.67	1.59
2N6487	221A	20–150	5.0	60	75	15	1.95	1.86
2N3055	11	20–70	4.0	60	115	15	1.51	1.44
2N6576	11	2K–20K	4.0	60	120	15	1.70	1.62
MJE1661	90	20–100	5.0	60	90	15	3.86	3.67
2N5881	11	20–100	6.0	60	160	15	2.48	2.36
2N3055A	11	20–70	4.0	60	115	15	2.19	2.08
2N6488	221A	20–150	5.0	80	75	15	2.39	2.28
2N5882	11	20–100	6.0	80	160	15	2.77	2.64
2N6577	11	2K–20K	4.0	90	120	15	1.98	1.89
2N6578	11	2K–20K	4.0	120	120	15	2.27	2.17
MJ15015	11	20–70	4.0	120	180	15	2.43	2.32
MJ15001	11	25–150	4.0	140	200	15	4.36	4.15
2N6249	11	10–50	10	200	175	15	7.30	6.95

POWER TRANSISTOR LISTING CONTINUED ON NEXT PAGE

SILICON POWER TRANSISTORS (Cont'd)

For illustrations, see a previous page.

Motorola Type	Case	hFE at IC Min.–Max.	hFE at IC A	BVCEO Volts	PD W	Max. IC Cont. Amps	Net Each 1-9	Net Each 10-49
NPN (CONTINUED)								
2N6250	11	8–50	10	275	175	15	$ 8.65	$ 8.24
2N6546	11	6–30	10	300	175	15	10.19	9.71
2N6251	11	6–50	10	350	175	15	8.78	8.37
2N6547	11	6–30	10	400	175	15	12.48	11.88
MJ10013	11	10–250	10	550	175	15	11.88	11.31
MJ10014	11	10–250	10	600	175	15	14.85	14.15
MJ4033	11	1K min.	10	60	150	16	6.44	6.13
MJ4034	11	1K min.	10	80	150	16	7.13	6.79
2N5629	11	25–100	8.0	100	200	16	5.54	5.28
MJ4035	11	1K min.	10	100	150	16	8.31	7.92
2N5630	11	20–80	8.0	120	200	16	6.63	6.31
2N3773	11	15–60	8.0	140	150	16	4.22	4.02
2N5631	11	15–60	8.0	140	200	16	7.33	6.98
2N6257	11	15–75	8.0	40	150	20	2.58	2.46
2N3772	11	15–60	10	60	150	20	4.25	4.05
2N6282	11	750–18K	10	60	160	20	4.96	4.72
MJ5039	11	20–100	10	75	140	20	5.94	5.66
2N5303	11	15–60	10	80	200	20	3.86	3.67
2N6283	11	750–18K	10	80	160	20	5.35	5.10
2N5038	11	20–100	12	90	115	20	6.75	6.42
2N6284	11	750–18K	10	100	160	20	5.94	5.66
MJ15003	11	25–150	5.0	140	250	20	6.31	6.01
MJ13330	11	8–40	10	200	175	20	6.94	6.61
MJ13331	11	8–40	10	250	175	20	8.42	8.02
MJ10000	11	40–400	10	350	175	20	2.19	2.08
MJ10004	11	40–400	10	350	175	20	12.38	11.79
MJ13332	11	10–60	5.0	350	175	20	8.81	8.39
MJ13333	11	10–60	5.0	400	175	20	10.79	10.28
MJ10001	11	40–400	10	400	175	20	10.59	10.08
MJ10005	11	40–400	10	400	175	20	15.15	14.43
MJ13334	11	10–60	5.0	450	175	20	11.88	11.31
MJ10008	11	30–300	10	450	175	20	12.38	11.79
MJ10009	11	30–300	10	500	175	20	15.15	14.43
MJ13335	11	10–60	5.0	500	175	20	13.56	12.92
2N5885	11	20–100	10	60	200	25	4.25	4.05
2N5886	11	20–100	10	80	200	25	4.75	4.52
2N6338	11	30–120	10	100	200	25	8.81	8.39
2N6339	11	30–120	10	120	200	25	10.40	9.90
2N6340	11	30–120	10	140	200	25	18.90	18.00
2N6341	11	30–120	10	150	200	25	21.48	20.46
MJ15022	11	15–60	8.0	200	250	25	5.94	5.66
MJ15024	11	15–60	8.0	250	250	25	6.94	6.61
2N3771	11	15–60	15	40	150	30	3.92	3.73
2N5301	11	15–60	15	40	200	30	3.07	2.92
2N5302	11	15–60	15	60	200	30	3.46	3.30
2N6326	11	6–30	30	60	200	30	3.27	3.11
MJ11012	11	1K min.	20	60	200	30	7.92	7.54
2N6327	11	1K min.	20	80	200	30	3.67	3.49
MJ11014	11	1K min.	20	90	200	30	8.61	8.20
MJ802	11	25–100	7.5	100	200	30	4.46	4.25
2N6328	11	6–30	30	100	200	30	4.16	3.97
MJ11016	11	1K min.	20	120	200	30	9.79	9.33
2N5685	197	15–60	25	60	300	50	12.55	11.95
MJ11028	197	400 min.	50	60	300	50	9.90	9.43
2N5686	197	15–60	25	80	300	50	17.82	16.97
MJ11030	11	400 min.	50	90	300	50	10.59	10.08
2N6274	197	30–120	20	100	250	50	21.78	20.74
MJ11032	197	400 min.	50	120	300	50	11.88	11.31
2N6275	197	30–120	20	120	250	50	26.03	24.79
2N6276	197	30–120	20	140	250	50	34.44	32.80
2N6277	197	30–120	20	150	250	50	47.11	44.87
MJ10015	197	10 min.	40	400	250	50	27.32	26.02
MJ10016	197	10 min.	40	500	250	50	33.36	31.77
MJ14000	197	15–100	50	60	300	70	9.90	9.43
MJ14002	197	15–100	50	80	300	70	10.59	10.08
PNP								
2N4929	79	20 min.	0.05	150	5	0.5	$ 8.36	$ 7.96
MJ4645	79	20 min.	0.5	200	5	0.5	15.04	14.33
2N4930	79	20 min.	0.05	200	20	0.5	9.85	9.39
MDS60	306	30 min.	0.03	300	10	0.5	2.27	2.17
MPSU60	152	30 min.	0.03	300	10	0.5	2.27	2.17
MJE350	77	30–250	0.1	300	20	0.5	2.19	2.08
MJ4646	79	20 min.	0.5	300	5	0.5	16.23	15.46
MJ4647	79	20 min.	0.5	400	5	0.5	19.90	18.95
MPSU52	152	30 min.	0.5	40	10	0.8	1.09	1.03
D41D1	306	10 min.	1.0	30	10	1.0	.90	.85
D41D2	306	20 min.	1.0	30	10	1.0	1.20	1.15
MJE370	306	10 min.	1.0	30	10	1.0	1.41	1.34
2N4918	77	20–100	0.5	40	30	1.0	1.54	1.47
2N3244	79	50–150	0.5	40	5	1.0	26.32	25.07
2N3467	79	40–120	0.5	40	5	1.0	3.89	3.70
2N4898	80	20–100	0.5	40	25	1.0	1.88	1.79
TIP30	221A	15–75	1.0	40	30	1.0	.87	.82
D41D4	306	10 min.	1.0	45	10	1.0	1.12	1.06
D41D5	306	10 min.	1.0	45	10	1.0	1.36	1.30
2N3245	79	30–90	0.5	50	5	1.0	26.32	25.07
2N3468	79	40–120	0.5	50	5	1.0	4.25	4.05
MM4030	79	25–40	0.5	60	7	1.0	1.44	1.37
MM4032	79	70–100	0.5	60	7	1.0	1.76	1.68
2N4899	80	20–100	0.5	60	25	1.0	2.08	1.98
2N6554	306	25 min.	0.5	60	10	1.0	1.03	.98
D41D7	306	10 min.	1.0	60	10	1.0	1.20	1.15
D41D8	306	10 min.	1.0	60	10	1.0	1.57	1.49
TIP30A	221A	15–75	1.0	60	30	1.0	.92	.88
2N4315	77	20–100	0.5	60	30	1.0	1.80	1.72
MM4034	79	20–40	0.5	65	7	1.0	2.71	2.58
D41D10	306	10 min.	1.0	75	10	1.0	1.47	1.40

Motorola Type	Case	hFE at IC Min.–Max.	hFE at IC A	BVCEO Volts	PD W	Max. IC Cont. Amps	Net Each 1-9	Net Each 10-49
PNP (CONTINUED)								
D41D11	306	10 min.	1.0	75	10	1.0	$ 1.66	$ 1.58
D41D13	306	50–150	0.1	75	10	1.0	1.20	1.15
D41D14	306	50–150	0.1	75	10	1.0	1.53	1.45
MM4033	79	70–100	0.5	80	7	1.0	2.27	2.17
2N4900	80	20–100	0.5	80	25	1.0	2.35	2.23
2N6555	306	25 min.	0.5	80	10	1.0	1.13	1.08
TIP30B	221A	15–75	1.0	80	30	1.0	1.00	.95
2N4920	77	20–100	0.5	80	30	1.0	2.08	1.98
2N5679	79	40–150	0.25	100	10	1.0	2.01	1.91
2N6556	306	25 min.	0.5	100	10	1.0	1.23	1.17
TIP30C	221A	15–75	1.0	100	30	1.0	1.09	1.03
2N5680	79	40–150	0.25	120	10	1.0	2.01	1.91
2N6420	80	40–200	0.5	175	35	1.0	1.86	1.77
2N5415	79	30 min.	0.05	200	5	1.0	2.02	1.93
2N6424	80	40–200	0.1	225	20	1.0	2.27	2.17
2N5344	80	25–100	0.5	250	40	1.0	10.40	9.90
2N6425	80	40–200	0.1	300	20	1.0	2.64	2.51
2N5345	80	25–100	0.5	300	40	1.0	12.67	12.07
2N5416	79	30 min.	0.05	300	5	1.0	2.74	2.61
2N3762	79	30–120	1.0	40	4	1.5	8.87	8.45
2N3763	79	20–80	1.0	60	4	1.5	18.18	17.32
MPSU51	152	50 min.	1.0	30	10	2.0	1.03	.98
D41E1	306	10 min.	1.0	30	8	2.0	1.00	.95
D41K1	306	1K min.	1.5	30	10	2.0	1.23	1.17
D41K3	306	1K min.	1.0	30	10	2.0	1.19	1.13
MPSU51A	152	50 min.	1.0	40	10	2.0	1.13	1.08
D41K4	306	1K min.	1.5	50	10	2.0	1.31	1.24
D41K2	306	1K min.	1.0	50	10	2.0	1.39	1.33
D41E5	306	10 min.	1.0	60	8	2.0	1.20	1.15
TIP115	221A	500 min.	2.0	60	50	2.0	1.44	1.37
MPSU55	152	60 min.	0.25	60	10	2.0	1.00	.95
MPSU56	152	60 min.	0.25	80	10	2.0	1.09	1.03
D41E7	306	10 min.	1.0	80	8	2.0	1.54	1.47
TIP116	221A	500 min.	2.0	80	50	2.0	1.50	1.43
MM5007	79	50–250	0.25	100	8	2.0	2.49	2.37
MPSU57	152	30 min.	0.25	100	10	2.0	1.19	1.13
2N6211	80	10–100	1.0	225	35	2.0	2.48	2.36
2N6421	80	25–100	1.0	250	35	2.0	2.32	2.21
2N6423	80	30–150	0.75	300	35	2.0	2.51	2.39
2N6422	80	25–100	1.0	300	35	2.0	2.42	2.31
2N6216	80	10–100	1.0	300	35	2.0	2.98	2.84
2N6213	80	10–100	1.0	350	35	2.0	3.46	3.30
MJE370	77	25 min.	1.0	30	25	3.0	1.41	1.34
2N4234	79	30–150	0.25	40	6	3.0	1.39	1.33
MDS76	306	30 min.	1.0	40	10	3.0	1.25	1.19
MJE170	77	50–250	0.1	40	12.5	3.0	1.13	1.08
MJE32	77	25 min.	1.0	40	40	3.0	1.06	1.01
TIP32	221A	25 min.	1.0	40	40	3.0	.98	.94
2N3719	31	25–180	1.0	40	6.0	3.0	7.52	7.16
2N3867	31	40–200	1.5	40	6.0	3.0	13.36	12.72
MJE171	77	50–250	0.1	60	12.5	3.0	1.17	1.12
MJE32A	77	25 min.	1.0	60	40	3.0	1.12	1.06
TIP32A	221A	25 min.	1.0	60	40	3.0	1.04	.99
2N3720	31	25–180	1.0	60	6.0	3.0	10.10	9.62
2N3868	31	30–150	1.5	60	6.0	3.0	14.55	13.85
2N4235	79	30–150	0.25	60	6	3.0	1.61	1.54
MDS77	306	30 min.	1.0	60	10	3.0	1.35	1.29
2N4236	79	30–150	0.25	80	5	3.0	1.83	1.75
MJE172	77	50–240	0.1	80	12.5	3.0	1.29	1.23
MJE32B	77	25 min.	1.0	80	40	3.0	1.20	1.15
TIP32B	221A	25 min.	1.0	80	40	3.0	1.14	1.09
2N6303	31	30–150	1.5	80	6.0	3.0	19.50	18.57
MJE32C	77	25 min.	1.0	100	40	3.0	1.26	1.20
TIP32C	221A	25 min.	1.0	100	40	3.0	1.20	1.15
2N6034	77	750–18K	2.0	40	40	4.0	2.42	2.31
MJE371	77	40 min.	1.0	40	40	4.0	1.79	1.70
2N4898	80	20–100	0.5	40	25	4.0	1.88	1.79
MJE3310	77	1K min.	1.0	40	15	4.0	1.70	1.62
2N5193	77	25–100	1.5	40	40	4.0	1.69	1.61
2N6124	221A	25–100	1.5	45	40	4.0	1.09	1.03
2N3740	80	30–100	0.25	60	25	4.0	2.38	2.26
2N4899	80	20–100	0.5	60	25	4.0	2.08	1.98
2N6049	80	25–100	0.5	60	75	4.0	2.35	2.23
MJE3311	80	1K min.	1.0	60	15	4.0	1.91	1.82
2N5194	77	25–100	1.5	60	40	4.0	1.97	1.87
MJE700	77	750 min.	1.5	60	40	4.0	2.02	1.93
2N6125	77	25–100	1.5	60	40	4.0	1.16	1.10
2N6296	80	750–18K	2.0	60	50	4.0	2.67	2.54
MJE3311	77	1K min.	1.0	60	15	4.0	1.91	1.82
MJE701	77	750 min.	2.0	60	40	4.0	2.24	2.14
2N6035	77	750–18K	2.0	60	40	4.0	2.68	2.56
2N6125	221A	25–100	1.5	60	40	4.0	1.16	1.10
MJE700T	221A	750 min.	1.5	60	40	4.0	1.79	1.70
MJE701T	221A	750 min.	2.0	60	40	4.0	1.88	1.79
MJE251	77	40–120	0.2	80	15	4.0	1.97	1.87
2N3741	80	30–100	0.25	80	25	4.0	2.67	2.54
2N4900	80	20–100	0.5	80	25	4.0	2.35	2.23
MJE3312	77	1K min.	1.0	80	15	4.0	2.11	2.01
2N5195	77	25–100	1.5	80	40	4.0	2.38	2.26
MJE702	77	750 min.	1.5	80	40	4.0	2.33	2.22
2N6126	221A	20–80	1.5	80	40	4.0	1.25	1.19
2N6297	80	750–18K	2.0	80	50	4.0	2.98	2.84
MJE703	77	750 min.	2.0	80	40	4.0	2.70	2.57
2N6036	77	750–18K	2.0	80	40	4.0	3.14	2.99
MJE702T	221A	750 min.	1.5	80	40	4.0	2.02	1.93
MJE703T	221A	750 min.	2.0	80	40	4.0	2.27	2.17

POWER TRANSISTOR LISTING CONTINUED ON NEXT PAGE

SILICON POWER TRANSISTORS (Cont'd)

r illustrations, see a previous page.

Motorola Type	Case	hFE at IC Min.–Max.	A	BVCEO Volts	PD W	Max. IC Cont. Amps	Net Each 1-9	Net Each 10-49
PNP (CONTINUED)								
IE253	77	40–120	0.2	100	15	4.0	$ 2.20	$ 2.10
IE210	77	45–180	2.0	25	15	5.0	1.54	1.47
6312	80	25–100	1.5	40	75	5.0	1.63	1.55
5974	90	20–120	2.5	40	75	5.0	2.71	2.58
4913	11	25–100	2.5	40	87.5	5.0	1.48	1.41
IE105	90	25–100	2.0	50	65	5.0	3.46	3.30
4902	11	20–180	1.0	60	87.5	5.0	3.17	3.02
6313	80	25–100	1.5	60	75	5.0	1.88	1.79
1100	79	25–180	2.0	60	10	5.0	14.36	13.67
5975	90	25–100	2.5	60	75	5.0	3.05	2.90
4905	11	25–100	2.5	60	87.5	5.0	3.27	3.11
IE1090	90	750 min.	3.0	60	70	5.0	4.25	4.05
IE1091	90	750 min.	4.0	60	70	5.0	4.59	4.37
P125	221A	1K min.	3.0	60	65	5.0	1.82	1.73
P126	221A	1K min.	3.0	80	65	5.0	2.04	1.94
4903	11	20–180	1.0	80	87.5	5.0	3.46	3.30
6314	80	25–100	1.5	80	75	5.0	2.38	2.26
6190	79	30–120	2.0	80	10	5.0	12.96	12.35
6191	79	60–240	2.0	80	10	5.0	19.00	18.10
5976	90	20–120	2.5	80	75	5.0	3.61	3.44
4906	11	25–100	2.5	80	87.5	5.0	3.56	3.39
IE1092	90	750 min.	3.0	80	70	5.0	4.91	4.68
IE1093	90	750 min.	4.0	80	70	5.0	5.38	5.13
6192	79	30–120	2.0	100	10	5.0	16.92	16.12
6193	79	60–240	2.0	100	10	5.0	21.78	20.74
P127	221A	1K min.	3.0	100	75	5.0	2.33	2.22
4401	80	12–60	1.5	400	100	5.0	4.36	4.15
P42	221A	15–75	3.0	40	65	6.0	1.31	1.24
P42A	221A	15–75	3.0	60	65	6.0	1.45	1.38
P42B	221A	15–75	3.0	80	65	6.0	1.57	1.49
P42C	221A	15–75	3.0	100	65	6.0	1.76	1.68
6226	11	25–100	3.0	100	150	6.0	1.69	1.61
6227	11	20–80	3.0	120	150	6.0	1.88	1.79
6228	11	15–60	3.0	140	150	6.0	2.19	2.08
15012	11	20–100	2.0	250	200	6.0	4.75	4.52
6111	221A	30–150	3.0	30	40	7.0	1.07	1.02
6109	221A	30–150	2.5	50	40	7.0	1.14	1.09
6317	80	20–100	2.5	60	90	7.0	2.10	2.00
6107	221A	30–150	3.0	70	40	7.0	1.14	1.09
6186	160	30–120	2.0	80	60	7.0	36.63	34.88
6187	160	60–240	2.0	80	60	7.0	40.59	38.66
6318	80	20–100	2.5	80	90	7.0	2.19	2.08
6188	160	30–120	2.0	100	60	7.0	40.59	38.66
6189	160	60–240	2.0	100	60	7.0	54.45	51.85
3447	11	40–120	5.0	60	115	7.5	7.42	7.07
3448	11	40–120	5.0	80	115	7.5	7.92	7.54
5980	90	20–120	4.0	40	90	8.0	3.49	3.32
6666	221A	1K–20K	3.0	40	65	8.0	1.58	1.51
6040	221A	1K–10K	4.0	60	75	8.0	2.86	2.72
P105	221A	1K–20K	3.0	60	80	8.0	1.61	1.54
2900	11	1K min.	3.0	60	90	8.0	2.48	2.36
5981	90	20–120	4.0	60	90	8.0	3.96	3.77
6298	80	750–18K	4.0	60	75	8.0	2.77	2.64
6053	11	750–18K	4.0	60	100	8.0	2.87	2.74
JE6040	90	1K–20K	4.0	60	75	8.0	3.07	2.92
2901	11	1K min.	3.0	80	90	8.0	2.87	2.74
5982	90	20–120	4.0	80	90	8.0	4.71	4.48
6299	80	750–18K	4.0	80	75	8.0	2.98	2.84
6054	11	750–18K	4.0	80	100	8.0	3.37	3.21
JE6041	90	1K–20K	4.0	80	75	8.0	3.46	3.30
6041	221A	1K–10K	4.0	80	75	8.0	3.08	2.93
P106	221A	1K–20K	3.0	80	80	8.0	1.77	1.69
6042	221A	1K–10K	3.0	100	75	8.0	3.37	3.21
P107	221A	1K–20K	3.0	100	80	8.0	2.07	1.97
JE6042	90	1K–20K	4.0	100	75	8.0	3.97	3.78
JE-15029	221A	20 min.	4.0	120	50	8.0	2.42	2.31
JE-15031	221A	20 min.	4.0	150	50	8.0	2.64	2.51
6648	11	1K–20K	5.0	40	100	10	2.38	2.26
6649	11	1K–20K	5.0	60	100	10	2.67	2.54
6667	221A	1K–20K	5.0	60	65	10	1.72	1.63
JE-2901T	221A	25–100	3.0	60	75	10	1.42	1.36
JE-2955T	221A	20–70	4.0	60	75	10	1.42	1.36

Motorola Type	Case	hFE at IC Min.–Max.	A	BVCEO Volts	PD W	Max. IC Cont. Amps	Net Each 1-9	Net Each 10-49
PNP (CONTINUED)								
SE9400	221A	100 min.	4.0	60	70	10	$ 2.86	$ 2.72
MJ6700	160	25–180	2.0	60	60	10	40.62	38.68
MJE2901	90	25–100	3.0	60	90	10	3.67	3.49
2N3789	11	15 min.	3.0	60	150	10	2.38	2.26
2N3791	11	30 min.	3.0	60	150	10	1.88	1.79
MJE2955	90	20–70	4.0	60	90	10	3.67	3.49
2N5875	11	20–100	4.0	60	150	10	1.88	1.79
MJ2500	11	1K min.	5.0	60	150	10	4.96	4.72
2N3790	11	15 min.	3.0	80	150	10	2.67	2.54
2N3792	11	30 min.	3.0	80	150	10	1.98	1.89
2N5876	11	20–100	4.0	80	150	10	2.55	2.43
MJ2501	11	1K min.	5.0	80	150	10	5.54	5.28
2N6650	11	1K–20K	5.0	80	100	10	2.87	2.74
2N6187	160	60–240	2.0	80	60	10	40.59	38.66
D45H10	221A	20 min.	4.0	80	50	10	2.04	1.94
D45H11	221A	40 min.	4.0	80	50	10	2.20	2.10
2N6668	221A	1K–20K	5.0	80	65	10	1.92	1.83
SE9401	221A	100 min.	4.0	80	70	10	3.08	2.93
2N6189	160	60–240	2.0	100	60	10	54.45	51.85
SE9402	221A	100 min.	4.0	100	70	10	3.37	3.27
2N6229	11	25–100	5.0	100	150	10	2.98	2.84
2N6230	11	20–80	5.0	120	150	10	3.56	3.39
2N6231	11	15–60	5.0	140	150	10	4.36	4.15
MJ15012	11	20–100	2.0	250	200	10	4.75	4.52
2N5986	90	20–120	6.0	40	100	12	3.77	3.59
2N6594	11	15–200	4.0	40	100	12	1.17	1.12
2N5987	90	20–120	6.0	60	100	12	4.16	3.97
2N6050	11	750–18K	6.0	60	150	12	4.46	4.25
2N5988	90	20–120	6.0	80	100	12	4.56	4.34
2N6051	11	750–18K	6.0	80	150	12	4.96	4.72
2N6052	11	750–18K	6.0	100	150	12	5.54	5.28
MJE1290	90	20–100	5.0	40	90	15	3.96	3.77
2N6489	221A	20–150	5.0	40	75	15	1.88	1.79
2N6490	221A	20–150	5.0	60	75	15	2.13	2.03
MJ2955	11	20–70	4.0	60	115	15	1.56	1.48
MJE1291	90	20–100	5.0	60	90	15	4.65	4.43
2N5879	11	20–100	6.0	60	160	15	2.48	2.36
2N5880	11	20–100	6.0	80	160	15	2.77	2.64
2N6491	221A	20–150	5.0	80	75	15	2.57	2.44
MJ15016	11	20–70	4.0	120	180	15	2.58	2.46
MJ15002	11	25–150	4.0	140	200	15	4.36	4.15
MJ4030	11	1K min.	10	60	150	16	7.42	7.07
MJ4031	11	1K min.	10	80	150	16	8.21	7.82
2N6029	11	25–100	8.0	100	200	16	6.94	6.61
MJ4032	11	1K min.	10	100	150	16	9.61	9.15
2N6030	11	20–80	8.0	120	200	16	7.33	6.98
2N6609	11	15–60	8.0	140	150	16	5.13	4.89
2N6031	11	15–60	8.0	140	200	16	8.42	8.02
2N6285	11	750–18K	10	60	160	20	5.94	5.66
2N5745	11	15–60	10	80	200	20	5.86	5.67
2N6286	11	750–18K	10	80	160	20	6.34	6.03
2N6287	11	750–18K	10	100	160	20	6.94	6.61
MJ15004	11	25–150	5.0	140	250	20	6.31	6.01
2N5883	11	. . .	. . .	60	200	25	4.85	4.62
2N5884	11	20–100	10	80	200	25	5.94	5.66
2N6436	11	20–80	10	80	200	25	10.40	9.90
2N6437	11	20–80	10	100	200	25	16.83	16.03
2N6438	11	20–80	10	120	200	25	21.48	20.46
MJ15023	11	15–60	8.0	200	250	25	6.34	6.03
MJ15025	11	15–60	8.0	250	250	25	7.33	6.98
2N4398	11	15–60	15	40	200	30	4.46	4.25
2N4399	11	15–60	15	60	200	30	5.94	5.66
MJ11011	11	1K min.	20	60	200	30	8.92	8.49
2N6329	11	6–30	30	60	200	30	3.67	3.49
2N6330	11	6–30	30	80	200	30	4.06	3.87
MJ11013	11	1K min.	20	90	200	30	9.71	9.25
2N6331	11	6–30	30	100	200	30	4.46	4.25
MJ4502	11	25–100	7.5	100	200	30	4.46	4.25
MJ11015	11	1K min.	20	120	200	30	11.09	10.56
2N5683	197	15–60	25	60	300	50	19.80	18.85
MJ11029	197	400 min.	50	60	300	50	10.90	10.38
2N5684	197	15–60	25	80	300	50	23.10	22.00
2N6377	197	30–120	20	80	250	50	23.86	22.72
MJ11031	11	400 min.	50	90	300	50	11.69	11.13
2N6378	197	30–120	20	100	250	50	32.36	30.82
2N6379	197	30–120	20	120	250	50	47.11	44.87
MJ11033	197	400 min.	50	120	300	50	13.07	12.44
MJ14001	197	15–100	50	60	300	70	10.90	10.38
MJ14003	197	15–100	50	80	300	70	11.69	11.13

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LOW VOLTAGE POWER TRANSISTORS

Motorola Type	Case	Freq. MHz	Pin Watts	P_{out} Watts	Gain dB	Net Each 1-9	Net Each 10-49
MRF476	TO-220	1.5–30	0.1	3.0	15	$ 2.02	$ 1.93
MRF475	TO-220	1.5–30	1.2	12	10	4.25	4.05
MRF432	211	1.5–30	0.13	12.5	20	16.47	15.68
MRF433	211	1.5–30	0.13	12.5	20	16.47	15.68
MRF479	TO-220	1.5–30	1.5	15	10	5.40	5.14
MRF406	211	1.5–30	1.25	20	12	18.84	17.95
MRF477	TO-220	1.5–30	1.25	40	15	13.29	12.65
MRF460	211	1.5–30	2.5	40	12	28.74	27.37
MRF421	211	1.5–30	10	100	10	46.01	43.82
MRF8003	TO-39	14–30	0.03	0.5	13	2.30	2.19
MRF8004	TO-39	14–30	0.35	3.5	10	2.35	2.23
MRF449	211	14–30	0.3	30	10	15.56	14.82
MRF449A	145A	14–30	0.3	30	10	15.56	14.82
MRF450	211	14–30	4.0	50	11	17.26	16.44
MRF450A	145A	14–30	4.0	50	11	17.26	16.44
MRF453	211	14–30	4.8	60	11	23.21	22.11
MRF453A	145A	14–30	4.8	60	11	23.21	22.11
MRF455	211	14–30	4.8	60	11	20.65	19.66
MRF455A	145A	14–30	4.8	60	11	20.65	19.66
MRF458	211	14–30	5.0	80	12	30.32	28.88
MRF458A	145A	14–30	5.0	80	12	30.32	28.88
MRF454	211	14–30	5.0	80	12	32.01	30.49
MRF454A	145A	14–30	5.0	80	12	32.01	30.49
MRF492	TO-39	27–50	0.1	1.0	10	3.05	2.90
2N5847	145A	27–50	0.8	8.0	10	16.35	15.57
2N5848	145A	27–50	3.22	20	8	22.33	21.27
2N5849	145A	27–50	7.14	40	7.5	31.22	29.73
MRF497	TO-220	27–50	4.0	40	10	13.29	12.65
MRF229	TO-39	40–100	0.15	1.5	10	2.86	2.72
MRF230	TO-39	40–100	0.15	1.5	10	2.61	2.49
MRF231	145A	40–100	0.15	3.5	10	10.49	9.99
MRF232	145A	40–100	0.95	7.5	9	13.08	12.46
MRF233	145A	40–100	1.7	15	9.5	18.95	18.04
MRF234	145A	40–100	2.5	25	10	24.03	22.89
MRF237	TO-39	156–162	0.25	4.0	12	2.86	2.72
MRF238	145A	156–162	3.75	30	9	14.66	13.97
MHW613	301A	156–162	0.3	30	20	69.30	66.00
MRF604	TO-46	136–174	0.1	1.0	10	2.01	1.91
2N4427	TO-39	136–174	0.1	1.0	10	1.76	1.68
MRF607	TO-39	136–174	0.1	1.8	12	2.86	2.72
2N6255	TO-39	136–174	0.5	3.0	8	2.86	2.72
2N5589	144B	136–174	0.44	3.0	8	10.00	9.53
2N6080	145A	136–174	0.25	4.0	12	11.35	10.81
MRF260	TO-220	136–174	0.5	5.0	10	5.40	5.14
2N5590	145A	136–174	3.0	10	5	11.95	11.38
MRF261	TO-220	136–174	3.0	10	6	6.86	6.54
MRF212	145A	136–174	1.25	10	9	14.21	13.53
2N6081	145A	136–174	3.5	15	6	14.74	14.04
MRF262	TO-220	136–174	3.5	15	6	10.59	10.08
MRF221	211	136–174	3.3	15	6	14.78	14.08
MRF215	316	136–174	0.33	20	8	25.72	24.49
2N5591	145A	136–174	9.0	25	4.4	17.38	16.55
2N6082	145A	136–174	6.0	25	6	16.57	15.78
MRF222	211	136–174	6.0	25	6	16.60	15.81
2N6083	145A	136–174	8.1	30	6	19.40	18.48
MRF233	211	136–174	8.1	30	6	18.95	18.04
MRF264	TO-220	136–174	9.1	30	5	13.29	12.65
2N6084	145A	136–174	14.3	40	4.5	21.50	29.47
MRF224	211	136–174	14.3	40	4.5	21.44	20.42
MRF216	316	136–174	8.5	40	6.7	32.93	31.37
MRF250	211	136–174	18.0	50	4.4	26.47	25.21
MRF250A	145A	136–174	18.0	50	4.4	26.47	25.21
MRF243	316	136–174	12.0	60	7	42.07	40.07
MRF245	316	136–174	18.2	80	6.4	48.83	46.50
MHW612	301A	146–174	0.2	20	20	66.07	62.92
MHW613	301A	146–174	0.3	30	20	69.30	66.00
MRF207	TO-39	220	0.15	1.0	8.2	1.76	1.68
MRF225	TO-39	220	0.18	1.5	9	2.42	2.31
MRF227	TO-39	220	0.13	3.0	13.5	3.61	3.44
MRF208	145A	220	0.1	10	10	17.04	16.23
MRF226	145A	220	1.6	13	9	17.26	16.44
MRF209	145A	220	9.1	25	4.4	20.19	19.23
2N6256	249	407–512	0.05	0.5	10	10.73	10.22
MRF626	305	407–512	0.05	0.5	10	8.39	7.99
MRF627	305A	407–512	0.05	0.5	10	7.85	7.47
MRF628	249	407–512	0.05	0.5	10	10.10	9.62
MRF515	TO-39	407–512	0.12	0.75	8	2.93	2.79
2N3948	TO-39	407–512	0.25	1.0	6	2.71	2.58
MRF629	TO-39	407–512	0.32	2.0	8	3.78	3.60
2N5944	244	407–512	0.25	2.0	9	13.08	12.46
2N5945	244	407–512	0.64	4.0	8	18.15	17.29
MRF660	TO-220	407–512	2.0	7.0	5.4	9.79	9.33
2N5946	244	407–512	2.5	10	6	21.54	20.52
MRF641	316	407–512	3.75	15	7.8	25.15	23.95
MRF644	316	407–512	5.9	25	6.2	30.24	28.80
MRF646	316	407–512	13.3	40	4.8	33.61	32.01
MRF648	316	407–512	22	60	4.4	45.46	43.29
MRF816	249	806–947	0.08	0.75	10	15.57	14.83
MRF838	305A	806–947	0.22	1.0	6.5	8.97	8.55
MRF838A	305	806–947	0.22	1.0	6.5	8.97	8.55
MRF817	244	806–947	0.59	2.5	6.2	22.33	21.27
MRF840	319	806–947	2.5	10	6	21.59	20.56
MRF842	319	806–947	5.0	20	6	37.38	35.60
MRF844	319	806–947	9.0	30	5.2	43.58	41.50
MRF846	319	806–947	15	40	4.3	55.43	52.79

SMALL-SIGNAL, METAL-PACKAGED TRANSISTORS

For illustrations, see following page.

SWITCHING TRANSISTORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. I_C A	Min. f_T MHz	Net Each 1-9	Net Each 10-49
NPN								
2N2369A	TO-18	40	10	15	0.2	500	$0.73	$0.70
2N3647	TO-46	25	150	10	0.5	350	4.03	3.84
2N3648	TO-46	30	150	15	0.5	450	4.77	4.54
2N2369	TO-18	20	100	15	0.5	500	.72	.69
2N3227	TO-18	30	100	20	0.5	500	4.77	4.54
2N3508	TO-46	40	10	20	0.5	500	9.53	9.08
2N3509	TO-46	100	10	20	0.5	500	9.53	9.08
2N4013	TO-18	35	500	30	1.0	300	2.93	2.79
2N4014	TO-18	35	500	50	1.0	300	3.15	3.00
2N3736	TO-46	30	1000	30	1.5	250	7.77	7.40
2N3737	TO-46	20	1000	50	1.5	250	7.63	7.26
2N3734	TO-39	30	1000	50	1.5	250	3.59	3.42
2N3735	TO-39	20	1000	50	1.5	250	7.11	6.77
2N3724	TO-39	35	500	30	2.0	300	1.83	1.75
2N5859	TO-39	15	1000	40	2.0	250	1.58	1.51
2N3725	TO-39	35	500	50	2.0	300	1.91	1.82
MM5262	TO-39	25	1000	50	2.0	350	3.15	3.00
2N5861	TO-39	25	500	50	2.0	200	2.57	2.44
2N3506	TO-39	40	1500	40	3.0	60	19.50	18.57
2N3507	TO-39	30	1500	50	3.0	60	22.07	21.02
2N2540	TO-18	100	150	30	.....	250	8.58	8.17
PNP								
2N4209	TO-18	40	50	15	0.05	850	$5.35	$5.10
2N3546	TO-18	25	50	12	.....	700	4.11	3.91
2N4208	TO-18	30	10	12	0.2	700	4.33	4.12
2N3012	TO-18	30	30	12	0.2	400	3.01	2.86
2N2894	TO-18	40	30	12	0.2	400	3.52	3.35
2N869A	TO-18	40	30	18	0.2	400	1.83	1.75
2N3762	TO-39	30	1000	40	1.5	180	8.87	8.45
2N3467	TO-39	40	500	40	0.1	175	3.89	3.70
MM4037	TO-39	50	150	40	1.0	60	2.35	2.23
2N3244	TO-39	50	500	40	1.0	175	26.32	25.07
2N3468	TO-39	25	500	50	1.0	150	4.25	4.05
2N3245	TO-39	30	500	50	1.0	150	26.32	25.07
2N3763	TO-39	20	1000	60	1.5	150	18.18	17.32
MM4030	TO-39	25	500	60	1.0	100	1.44	1.37
MM4032	TO-39	70	500	60	1.0	150	1.76	1.68
MM4036	TO-39	40	150	65	1.0	60	2.71	2.58
2N4406	TO-39	20	1000	80	1.5	150	19.80	18.85
2N4407	TO-39	30	1000	80	1.5	150	22.43	21.37
2N4404	TO-39	30	500	80	1.0	200	14.52	13.83
2N4405	TO-39	50	500	80	1.0	200	15.84	15.08
MM4033	TO-39	70	500	80	1.0	150	2.27	2.17
2N3634	TO-39	50	50	140	1.0	150	22.07	21.02
2N3635	TO-39	100	50	140	1.0	200	24.05	22.90
2N3636	TO-39	50	50	175	1.0	150	32.41	30.86

UHF/VHF AMPLIFIERS/OSCILLATORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. NF at f dB	Max. NF at f MHz	Net Each 1-9	Net Each 10-49
NPN								
2N918	TO-72	20	3.0	15	6.0	60	$1.07	$1.02
PNP								
2N4260	TO-72	30	10	15	.....		$21.70	$20.67
2N4261	TO-72	30	10	15	.....		25.66	24.44
2N3308	TO-18	25	2.0	25	6.0	200	18.48	17.60
2N3307	TO-18	40	2.0	35	4.5	200	18.48	17.60

HIGH-GAIN, LOW-NOISE TRANSISTORS

Motorola Type	Case	h_{FE} at I_C Min.	h_{FE} at I_C mA	Min. BV_{CEO} Volts	Max. I_C A	Max. NF dB	Net Each 1-9	Net Each 10-49
NPN								
MM6427	TO-18	5K	10	40	300	.....	$2.05	$1.96
2N930	TO-18	100	10	45	30	3.0	.66	.63
2N930A	TO-18	100	10	45	30	3.0	2.42	2.31
2N2484	TO-18	100	10	60	50	8.0	.72	.69
PNP								
2N2604	TO-46	40	120	45	30	4.0	$1.83	$1.75
2N2605	TO-46	100	300	45	30	4.0	1.83	1.75
2N3964	TO-18	250	1000	45	200	4.0	1.61	1.54
2N3965	TO-18	250	1000	60	200	8.0	1.69	1.61
2N3962	TO-18	100	1000	60	200	10.0	1.47	1.40
2N3798	TO-18	150	450	60	50	3.5	5.50	5.24
2N3799	TO-18	300	900	60	50	2.5	5.94	5.66
2N3963	TO-18	100	1000	80	200	10.0	1.54	1.47

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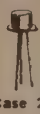
MOTOROLA Semiconductors — Silicon Transistors


Case 29
TO-92


TO-52


TO-39


TO-46

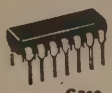

Case 22
TO-18


TO-72


TO-60


Case 215


Case 249-01

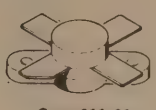

Case 646


Case 632


Case 654


Case 145A-01,


Case 144B-03


Case 211-01


Case 244-01


Case 607

SMALL-SIGNAL, METAL-PACKAGED TRANSISTORS (Cont'd)

HIGH-VOLTAGE, HIGH-CURRENT TRANSISTORS

Motorola Type	Case	hFE at IC Min.	hFE at IC mA	Min. BVCEO Volts	Max. IC A	Min. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
4237	TO-39	30	250	40	3.0	2.0	$1.25	$1.19
4238	TO-39	30	250	60	3.0	2.0	1.54	1.47
M3005	TO-39	50	150	60	2.5	50	2.71	2.58
4239	TO-39	30	250	80	3.0	2.0	1.76	1.68
M3006	TO-39	50	200	80	2.5	50	3.15	3.00
1990	TO-39	20	30	100	1.0	.....	4.33	4.12
657	TO-39	30	200	100	.....	.....	3.39	3.23
5681	TO-39	40	250	100	1.0	30	1.76	1.68
3498	TO-39	40	150	100	0.5	150	10.41	9.92
4924	TO-39	40	150	100	0.2	100	3.52	3.35
M3007	TO-39	50	250	100	2.5	50	4.25	4.05
3499	TO-39	100	150	100	0.5	150	11.73	11.17
5682	TO-39	40	250	120	1.0	30	2.01	1.91
M3008	TO-39	40	10	120	0.4	50	2.49	2.37
M2258	TO-39	50	10	120	0.5	150	6.45	6.15
M3001	TO-39	20	10	150	0.2	150	2.35	2.23
3114	TO-39	30	30	150	0.2	40	10.05	9.57
3712	TO-39	30	30	150	0.2	40	4.33	4.12
3500	TO-39	40	150	150	0.3	150	17.74	16.90
3501	TO-39	100	150	150	0.3	150	19.80	18.85
M2259	TO-39	35	10	175	0.3	150	6.89	6.56
M3009	TO-39	40	10	180	0.4	50	3.01	2.86
M3002	TO-39	20	10	200	0.05	150	2.64	2.51
1926	TO-39	20	30	200	0.05	30	5.28	5.03
M3003	TO-39	20	10	250	0.05	150	2.98	2.85
1927	TO-39	20	30	250	0.05	30	5.72	5.45
1420	TO-39	25	30	250	1.0	15	1.54	1.47
5059	TO-39	30	30	250	0.15	30	3.81	3.63
3440	TO-39	40	20	250	1.0	15	1.32	1.26
3742	TO-39	20	30	300	0.05	30	20.97	19.97
5058	TO-39	35	30	300	0.15	30	4.33	4.12
1421	TO-39	25	30	325	1.0	15	1.69	1.61
3439	TO-39	40	20	350	1.0	15	1.60	1.52
PNP								
1234	TO-39	30	250	40	3.0	3.0	$1.39	$1.33
1235	TO-39	30	250	60	3.0	3.0	1.61	1.54
M5005	TO-39	50	150	60	2.0	30	1.61	1.54
1036	TO-39	40	150	65	1.0	60	1.25	1.19
M5006	TO-39	50	200	80	2.0	30	1.98	1.89
1236	TO-39	30	250	80	3.0	3.0	1.83	1.75
3496	TO-18	40	10	80	0.1	200	17.30	16.48
3494	TO-39	40	10	80	0.1	200	16.28	15.50
4000	TO-39	20	10	100	0.1	.....	2.35	2.23
1928	TO-39	25	10	100	0.1	100	6.89	6.56
5679	TO-39	40	250	100	1.0	30	2.01	1.91
M5007	TO-39	50	250	100	2.0	30	2.49	2.37
3495	TO-39	40	10	120	0.1	150	21.26	20.25
3497	TO-18	40	10	120	0.1	150	22.58	21.51
5680	TO-39	40	250	120	1.0	30	2.01	1.91
3634	TO-39	50	50	140	1.0	150	22.07	21.02
4001	TO-39	20	10	150	0.5	.....	2.64	2.51
1929	TO-39	25	10	150	0.5	100	8.36	7.96
3636	TO-39	50	50	175	1.0	150	32.41	30.86
3637	TO-39	100	50	175	1.0	200	35.56	33.87
4002	TO-39	20	10	200	0.5	.....	3.05	2.90
1930	TO-39	20	20	200	0.5	20	9.85	9.39
5415	TO-39	30	50	200	1.0	15	1.60	1.52
3432	TO-18	30	30	200	1.0	50	2.87	2.74
3415	TO-39	30	50	200	1.0	15	2.02	1.93
4003	TO-39	20	10	250	0.5	.....	3.37	3.21
1931	TO-39	20	20	250	0.5	20	11.22	10.68
1743	TO-39	25	30	300	0.05	30	20.97	19.97
5416	TO-39	30	50	300	1.0	15	2.20	2.10
3433	TO-18	30	30	300	1.0	50	3.15	3.00
5416	TO-39	30	50	300	1.0	15	2.20	2.10

GENERAL PURPOSE TRANSISTORS

Motorola Type	Case	hFE at IC Min.	hFE at IC mA	Min. BVCEO Volts	Max. IC A	Min. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
2N916	TO-18	50	10	25	.....	300	$1.45	$1.38
2N2218	TO-39	40	150	30	0.8	250	.79	.75
2N2219	TO-39	100	150	30	0.8	250	.79	.75
2N2222	TO-18	100	150	30	0.8	250	.75	.71
2N3300	TO-39	100	150	30	0.5	250	1.83	1.75
2N3302	TO-18	100	150	30	0.5	250	1.91	1.82
2N697	TO-39	40	150	40	.....	50	.76	.73
2N718	TO-18	40	150	40	.....	50	.95	.91
2N2218A	TO-39	40	150	40	0.8	250	.82	.78
2N2221A	TO-18	40	150	40	0.8	250	.79	.75
2N5581	TO-46	40	150	40	0.8	250	4.99	4.75
2N3053	TO-39	50	150	40	0.7	100	.85	.81
2N3946	TO-18	50	10	40	0.2	300	4.33	4.12
MM3903	TO-52	50	10	40	0.2	250	2.05	1.96
2N2219A	TO-39	100	150	40	0.8	300	.82	.78
2N2222A	TO-18	100	150	40	0.8	300	.78	.74
2N3947	TO-18	100	10	40	0.2	300	4.24	4.03
2N5582	TO-46	100	150	40	0.8	300	5.75	5.48
MM3904	TO-52	100	10	40	0.2	300	2.20	2.10
2N3946	TO-18	50	10	40	0.2	250	4.33	4.12
2N2897	TO-18	50	150	45	1.0	100	2.71	2.58
2N2270	TO-39	50	150	45	1.0	100	1.45	1.38
2N956	TO-18	40	150	50	.....	70	1.69	1.61
2N1613	TO-39	40	150	50	0.5	60	.82	.78
2N2193A	TO-39	40	150	50	1.0	50	6.45	6.15
2N915	TO-18	50	10	50	.....	250	1.54	1.47
2N656	TO-39	30	200	60	.....	.....	2.87	2.74
2N2895	TO-18	40	150	65	1.0	120	3.01	2.86
2N3700	TO-18	50	500	80	1.0	80	2.53	2.41
2N3020	TO-39	40	150	80	1.0	80	5.57	5.31
2N1711	TO-39	100	150	80	.....	70	.85	.81
2N3019	TO-39	100	150	80	1.0	100	1.07	1.02
2N2896	TO-18	60	150	90	1.0	120	4.55	4.33
PNP								
2N1132	TO-39	30	150	35	0.6	60	$1.58	$1.51
2N1132A	TO-39	30	150	40	0.6	60	3.89	3.70
2N2904	TO-39	40	150	40	0.6	200	.95	.91
2N2906	TO-18	40	150	40	0.6	200	.76	.73
2N3250	TO-18	50	10	40	0.2	250	.85	.81
MM3905	TO-52	50	10	40	0.2	200	2.05	1.96
MM4037	TO-39	50	150	40	1.0	60	2.35	2.23
MM3906	TO-52	100	10	40	0.2	250	2.20	2.10
2N2907	TO-18	100	150	40	0.6	200	.75	.71
2N3251	TO-18	100	10	40	0.2	300	.85	.81
2N3486	TO-46	100	150	40	0.6	200	10.56	10.06
2N2905	TO-39	100	150	40	0.6	200	.79	.75
2N2904A	TO-39	40	150	60	0.6	200	1.01	.96
2N2906A	TO-18	40	150	60	0.6	200	.79	.75
2N3485A	TO-46	40	150	60	0.6	200	9.53	9.08
2N3250A	TO-18	50	10	60	0.2	250	.88	.84
MM5005	TO-39	50	150	60	2.0	30	1.61	1.54
2N2905A	TO-39	100	150	60	0.6	200	.82	.78
2N2907A	TO-18	100	150	60	0.6	200	.78	.74
2N3251A	TO-18	100	10	60	0.2	300	.88	.84
2N3486A	TO-46	100	150	60	0.6	200	11.58	11.03
MM4036	TO-39	20	150	65	1.0	60	2.71	2.58
2N4404	TO-39	40	150	80	1.0	200	14.52	13.83
MM5006	TO-39	50	200	80	2.0	30	1.98	1.89
2N4405	TO-39	100	150	80	1.0	200	15.84	15.08
MM5007	TO-39	50	250	100	2.0	30	2.49	2.37

MOTOROLA Semiconductors — Silicon Transistors

SMALL-SIGNAL, PLASTIC-PACKAGED TRANSISTORS

GENERAL PURPOSE TRANSISTORS

Motorola Type	Case	hFE at IC Min.	hFE at IC mA	Min. BVCEO Volts	Max. IC A	Min. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
MPS6601	TO-92	30	1000	25	1.0	100	$0.71	$0.67
MPS6560	TO-92	50	500	25	0.5	60	.70	.67
MPS6514	TO-92	150	2.0	25	0.1	480	.68	.64
MPS5172	TO-92	100	10	25	0.1	.....	.29	.28
2N4124	TO-92	120	2.0	25	0.3	300	.54	.51
MPS6515	TO-92	250	2.0	25	0.1	480	.65	.61
2N4123	TO-92	50	2.0	30	0.2	250	.52	.50
MPS6513	TO-92	90	2.0	30	0.1	330	.65	.61
MPS2222	TO-92	100	150	30	0.6	250	.48	.47
MPS3704	TO-92	100	50	30	0.6	100	.50	.48
MPSA20	TO-92	40	5.0	40	0.1	125	.38	.36
2N4400	TO-92	50	150	40	0.6	200	13.52	12.88
2N3903	TO-92	50	100	40	0.2	250	.73	.69
MPS6531	TO-92	90	100	40	0.6	390	.76	.73
2N4401	TO-92	100	150	40	0.6	250	1.11	1.06
2N3904	TO-92	100	10	40	0.2	300	.76	.72
MPSA05	TO-92	50	100	60	0.5	100	.70	.67
MPS8098	TO-92	100	1.0	60	0.2	150	.51	.49
MPSA06	TO-92	50	100	80	0.5	100	.73	.70
MPS8099	TO-92	100	1.0	80	0.2	150	.57	.55
PNP								
MPS6651	TO-92	30	1000	25	1.0	100	$0.76	$0.73
MPS6562	TO-92	50	500	25	0.5	60	.79	.75
MPS6518	TO-92	150	2.0	25	0.1	480	.87	.82
2N4126	TO-92	120	2.0	25	0.3	300	.54	.51
MPS6519	TO-92	250	2.0	25	0.1	480	1.04	.99
2N4125	TO-92	50	2.0	30	0.2	250	.52	.50
MPS6517	TO-92	90	2.0	30	0.1	330	.79	.75
MPS2907	TO-92	100	150	30	0.6	250	.60	.57
MPS3702	TO-92	100	50	30	0.6	100	.50	.48
MPSA70	TO-92	50	5.0	40	0.1	125	.44	.42
2N4402	TO-92	50	150	40	0.6	200	.86	.82
2N3905	TO-92	50	10	40	0.2	250	.77	.73
MPS6534	TO-92	90	100	40	0.6	390	.81	.77
2N4403	TO-92	100	150	40	0.6	250	1.26	1.20
2N3906	TO-92	100	10	40	0.2	300	.80	.76
MPSA55	TO-92	50	100	60	0.5	100	.76	.73
MPS8598	TO-92	100	300	60	0.2	150	.54	.52
MPSA56	TO-92	50	100	80	0.5	100	.88	.84
MPS8599	TO-92	100	1.0	80	0.2	150	.60	.57

LOW-NOISE TRANSISTORS

Motorola Type	Case	hFE at IC Min.	hFE at IC mA	Min. BVCEO Volts	Typ. NF dB	Max. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
2N4124	TO-92	120	2.0	25	5.0	300	$0.54	$0.51
MPS6520	TO-92	200	2.0	25	3.0	390	.72	.69
MPS6521	TO-92	300	2.0	25	3.0	390	.83	.79
2N5089	TO-92	400	10	25	2.0	50	1.11	1.06
2N4123	TO-92	50	2.0	30	6.0	250	.52	.50
2N5088	TO-92	300	10	30	3.0	50	.77	.73
MPS8097	TO-92	250	0.1	40	2.0	200	1.06	1.01
MPSA18	TO-92	500	10	45	1.5	100	1.11	1.06
2N6429	TO-92	500	10	45	5.0	100	.88	.84
2N6429A	TO-92	500	10	45	3.5	100	1.10	1.05
2N5210	TO-92	250	10	50	2.0	30	1.06	1.01
2N6428	TO-92	250	10	50	6.0	100	.88	.84
2N6428A	TO-92	250	10	50	4.0	100	1.10	1.05
MPSA09	TO-92	100	0.1	50	1.4	30	.79	.75
2N5209	TO-92	150	10	50	3.0	30	.97	.92
PNP								
2N4126	TO-92	120	2.0	25	4.0	250	$0.54	$0.51
MPS6522	TO-92	200	2.0	25	3.0	340	.76	.73
MPS6523	TO-92	300	2.0	25	3.0	340	.85	.81
2N4125	TO-92	50	2.0	30	5.0	200	.52	.50
MPS4250	TO-92	250	10	40	2.0	250	.44	.42
2N5086	TO-92	150	10	50	3.0	40	.77	.73
2N5087	TO-92	250	10	50	2.0	40	.92	.88
MPS4249	TO-92	100	10	60	3.0	100	.37	.35
MPS4250A	TO-92	250	0.1	60	2.0	250	.47	.45

HIGH-SPEED, SATURATED-SWITCHING TRANSISTORS

Motorola Type	Case	Min. BVCEO Volts	hFE at IC Min.	hFE at IC mA	Maximum VCE (sat) @ Volts	Maximum IC mA	Net Each 1-9	Net Each 10-49
NPN								
2N4265	TO-92	12	100	10	0.22	10	$0.79	$0.75
MPS3013	TO-92	15	15	300	0.5	300	.72	.69
MPS706	TO-92	15	20	10	0.6	10	.66	.63
MPS3646	TO-92	15	30	30	0.2	30	.41	.39
2N4264	TO-92	15	40	10	0.22	10	.70	.67
MPS2369	TO-92	15	40	10	0.25	10	.78	.74
MPS835	TO-92	20	20	10	0.3	10	.88	.84
MPS834	TO-92	.....	25	10	0.25	10	.76	.73
PNP								
2N5228	TO-92	5.0	30	10	0.4	10	$0.41	$0.39
MPS4257	TO-92	6.0	30	50	0.15	10	.54	.52
MPS3639	TO-92	6.0	30	10	0.16	10	.38	.36
MPS3640	TO-92	12	30	10	0.2	10	.43	.41
MPS4258	TO-92	12	30	50	0.15	10	.51	.49
2N5771	TO-92	15	50	10	0.18	10	.63	.60

UHF/VHF AMPLIFIERS

Motorola Type	Case	Min. BVCEO Volts	Max. NF at f dB	Max. NF at f MHz	Max. Ccb pF	Min. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
MPS5179	TO-92	12	4.5	200	1.0	900	$0.57	$0.55
MPS3563	TO-92	12	.....		1.7	600	.41	.39
2N5222	TO-92	15	.....		1.3	450	.35	.34
MPS918	TO-92	15	6	60	1.7	600	1.22	1.16
MPSH17	TO-92	15	6	200	0.9	800	1.00	.95
MPSH31	TO-92	20	6	45	0.65	300	.75	.71
MPSH30	TO-92	20	6	45	0.65	300	.75	.71
MPS6539	TO-92	20	4.5	100	0.7	500	.88	.84
MPS8001	TO-92	25	.....		0.65♯	100	.66	.63
MPSH19	TO-92	25	.....		0.65	300	.66	.63
MPS6546	TO-92	25	.....		0.35♯	600	1.82	1.73
MPS6547	TO-92	25	.....		0.35♯	600	1.98	1.89
MPSH10	TO-92	25	.....		0.65‡	650	.72	.69
MPSH11	TO-92	25	.....		0.7	650	.79	.75
MPS6543	TO-92	25	.....		1.0	750	1.94	1.84
MPSH32	TO-92	30	3.3	45	0.22	300	.92	.88
MPS6540	TO-92	30	.....		0.65	350	.92	.88
MPSH20	TO-92	30	.....		0.65	400	.87	.82
MPSH24	TO-92	30	.....		0.36	400	.91	.87
MPSH07	TO-92	30	3.2	100	0.3‡	400	1.00	.95
MPSH08	TO-92	30	3.5	200	0.3‡	400	1.07	1.02
MPSH33	TO-92	30	6.5	850	0.3‡	600	1.39	1.32
MPS3866	TO-92	30	.....		.....	500	.95	.91
MPSH37	TO-92	40	.....		0.7♯	300	.75	.71
MPS3693	TO-92	45	4.0♯	1	0.2♯	200	.46	.43
MPS3694	TO-92	45	4.0	1	0.2♯	200	.51	.49
MPSH34	TO-92	45	.....		0.32	500	.95	.91
MPSH04	TO-92	80	2.0	1	1.6	80	.75	.71
MPSH05	TO-92	80	2.0	1	1.6	80	.72	.69
PNP								
MPSH81	TO-92	20	.....		0.65‡	600	$0.66	$0.63
2N5208	TO-92	25	3.0	100	1.0	300	.79	.75
MPSH54	TO-92	80	2.0	1	1.6	80	.79	.75
MPSH55	TO-92	80	.....		1.6	80	.75	.71

♯Typical. ‡C_{ee}.

HIGH-VOLTAGE TRANSISTORS

Motorola Type	Case	hFE at IC Min.	hFE at IC mA	Min. BVCEO Volts	Max. IC A	Min. fT MHz	Net Each 1-9	Net Each 10-49
NPN								
MPSL01	TO-92	50	10	100	0.15	60	$0.79	$0.75
MPSD03	TO-92	25	10	100	0.05	40	1.29	1.03
MPSD02	TO-92	20	30	140	0.05	40	1.32	1.26
2N5550	TO-92	60	10	140	0.6	100	.85	.81
2N5551	TO-92	80	10	160	0.6	100	.91	.87
MPSD01	TO-92	20	30	200	0.1	40	1.49	1.42
MPSA43	TO-92	40	10	200	0.5	50	1.00	.95
2N6515	TO-92	50	30	250	0.5	40	.95	.91
MPSA42	TO-92	40	10	300	0.5	50	.82	.78
2N6516	TO-92	45	30	300	0.5	40	1.00	.95
2N6517	TO-92	30	30	350	0.5	40	1.06	1.01
PNP								
MPSD53	TO-92	20	30	100	0.05	40	$1.29	$1.23
MPSL51	TO-92	40	50	100	0.6	60	.90	.85
2N5400	TO-92	40	10	120	0.6	100	1.10	1.05
MPSD52	TO-92	20	30	140	0.05	40	1.36	1.29
2N5401	TO-92	60	10	150	0.6	100	1.31	1.24
MPSD51	TO-92	20	30	200	0.1	40	1.45	1.38
MPSA93	TO-92	40	10	200	0.5	50	.78	.74
2N6518	TO-92	50	30	250	0.5	40	1.00	.95
MPSA92	TO-92	40	10	300	0.5	50	.89	.85
2N6519	TO-92	45	30	300	0.5	40	1.06	1.01
2N6520	TO-92	30	30	350	0.5	40	1.12	1.06

DARLINGTON TRANSISTORS

Motorola Type	Case	Min. BVCEO Volts	hFE at IC Min.	hFE at IC mA	Min. fT MHz	Max. IC mZ	Net Each 1-9	Net Each 10-49
NPN								
MPSA12	TO-92	20	20K	10	.....	500	$0.85	$0.81
MPSD04	TO-92	25	1K	100	100	300	1.36	1.29
MPSA13	TO-92	30	10K	100	125	500	.65	.62
MPSA14	TO-92	30	20K	100	125	500	.75	.71
2N6426	TO-92	40	30K	100	150	500	.73	.70
2N6427	TO-92	40	20K	100	130	500	.70	.67
PNP								
MPSA62	TO-92	20	20K	10	.....	500	$0.85	$0.81
MPSD54	TO-92	25	1K	100	100	300	1.53	1.45
MPSA63	TO-92	30	10K	100	125	500	.62	.59
MPSA64	TO-92	30	20K	100	125	500	.75	.71

SMALL SIGNAL HERMETIC TRANSISTORS

SILICON DUAL TRANSISTORS

Devices listed in descending order of magnitude of h_{FE}.

LOW NOISE—HIGH GAIN AMPLIFIERS

Motorola Type	Case	Polarity	BV_{CEO} V	DC Current Gain Ratio h_{FE1}/h_{FE2}	Net Ea., Lots 1-9	Net Ea., Lots 10-49
2N2919	654	NPN	60	0.9/1.0	$6.16	$5.87
2N2920*	654	NPN	60	10%	6.60	6.28
2N3810	654	PNP	60		6.75	6.42
2N3811	654	PNP	60		7.33	6.98
2N2639	654	NPN	40	0.9/1.0	3.67	3.49
2N2642	654	NPN	40	10%	4.40	4.19
2N2915	654	NPN	40		11.73	11.17
2N2916	654	NPN	40		6.16	5.87
2N3808	654	PNP	60	0.8/1.0	6.16	5.87
2N3809	654	PNP	60	20%	6.45	6.15
2N2913	654	NPN	40	0.8/1.0	3.67	3.49
2N2914	654	NPN	40	> or	4.11	3.91
2N3806	654	PNP	60	unmatched	4.55	4.33
2N3807	654	PNP	60	20%	4.55	4.33

GENERAL PURPOSE AMPLIFIERS AND SWITCHES

Motorola Type	Case	Polarity	BV_{CEO} V	DC Current Gain Ratio h_{FE1}/h_{FE2}	Net Ea., Lots 1-9	Net Ea., Lots 10-49
2N2060*	654	NPN	60		$5.28	$5.03
2N2903A	654	NPN	30	0.9/1.0	4.99	4.75
MD3250A†	654	PNP	40	10%	9.53	9.08
MD3251A†	654	PNP	40		10.27	9.78
2N2480A	654	NPN	40		4.25	4.05
2N2652	654	NPN	60	0.8/1.0	4.25	4.05
2N2903	654	NPN	30	20%	9.75	9.29
2N4938	654	PNP	40		4.40	4.19
MD2218†	654	NPN	30		3.81	3.63
MD2219†	654	NPN	30		13.20	12.57
MD2905†	654	PNP	40	0.8/1.0	13.20	12.57
MD3251†	654	PNP	40	> or	9.24	8.80
2N5793	654	NPN	40	unmatched	8.29	7.89
2N5794	654	NPN	40	20%	4.69	4.47
2N5795	654	PNP	60		5.43	5.17
2N5796	654	PNP	60		5.57	5.31
2N4854*	654	‡	40	.....	6.31	6.01
MD6001†	654	‡	30	.....	6.01	5.73
MD6002†	654	‡	30	.....	14.96	14.24

HIGH SPEED SWITCHES, HIGH FREQUENCY OSCILLATORS

MD708A†	654	NPN	15	0.9/1.0	$7.33	$6.98
MD918A†	654	NPN	15	10%	8.07	7.68
MD2369A†	654	NPN	15		6.60	6.28
MD708B†	654	NPN	15	0.8/1.0	6.60	6.28
MD918B	654	NPN	15	20%	8.07	7.68
MD708†	654	NPN	15	0.8/1.0 > or	5.87	5.59
MD918†	654	NPN	15	unmatched	7.04	6.70
MD2369†	654	NPN	15	20%	4.99	4.75

*JAN and JANTX types available. †For Case 610, add suffix **F**; prices on request. ‡Complementary pairs; one NPN/one PNP.

UNIJUNCTION TRANSISTORS—UJT

Motorola Type	Case	Intrinsic Standoff Ratio	Max. I_P μA	Min. I_V mA	Max. P_D mW	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MU10	29	0.50–0.85	5.0	1.0	300	$0.60	$0.57
MU20	22	0.56–0.85	2.0	1.0	300	.69	.66
MU2646	29	0.56–0.75	5.0	4.0	300	1.29	1.23
2N2646	22	0.56–0.75	5.0	4.0	300	.73	.70
2N2647	22	0.68–0.82	2.0	8.0	300	1.28	1.22
2N3980	22	0.68–0.82	2.0	0.01	360	4.25	4.05
2N4851	22	0.56–0.75	2.0	2.0	300	1.31	1.24
2N4852	22	0.70–0.85	2.0	4.0	300	1.31	1.24
2N4853	22	0.70–0.85	0.4	6.0	300	2.87	2.74
2N4870	29	0.56–0.75	5.0	2.0	300	.94	.89
2N4871	29	0.70–0.85	5.0	4.0	300	.84	.80
MU4891	29	0.55–0.82	5.0	2.0	300	1.10	1.05
MU4892	29	0.51–0.69	2.0	2.0	300	1.44	1.37
MU4893	29	0.55–0.82	2.0	2.0	300	1.19	1.13
MU4894	29	0.74–0.86	1.0	2.0	300	1.29	1.23
2N4948*	22	0.55–0.82	2.0	2.0	360	1.16	1.10
2N4949*	22	0.74–0.86	1.0	2.0	360	3.07	2.92
2N5431†	22	0.72–0.80	0.4	2.0	300	4.44	4.23

*JAN and JANTX types available. †JAN type available.

PROGRAMMABLE UNIJUNCTION TRANSISTORS—PUT

I_P and I_V at $R_G = 1$ meg. $V_O = 6.0$ V min. $V_F = 1.5$ V at $I_F = 50$ mA. $t_r = 80$ nsec. $T_J = -50°$ C to $+100°$ C except as otherwise noted.

Motorola Type	Case	Maximum I_P μA	Maximum I_V μA	P_D mW	I_T (pulse) A	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MPU131	29	2.0	50	375	2.0	$0.91	$0.87
MPU132	29	0.3	50	375	2.0	1.00	.95
MPU133	29	0.15	25	375	2.0	1.14	1.09
2N6027	29	2.0	50	375	5.0	.40	.38
2N6028	29	0.15	25	375	5.0	.50	.48
2N6116*	22	2.0	50	250	2.0	1.61	1.54
2N6117*	22	0.3	50	250	2.0	2.65	2.53
2N6118*	22	0.15	25	250	2.0	3.21	3.06
MPU6027	29	2.0	50	375	.....	1.07	1.02
MPU6028	29	0.15	25	375	.....	1.36	1.30

*$T_J = -50°$ C to $+125°$ C.

NPN-PNP SILICON QUAD TRANSISTORS

Each quad transistor contains four similar transistors that can be used to reduce space requirements. Listed in order of decreasing BV_{CEO} (min.). NPN except as otherwise noted.

PLASTIC DUAL-IN-LINE (CASE 646)

Motorola Type	BV CEO V	h_{FE} at I_C Min.	h_{FE} at I_C mA	Maximum t_{on} ns	Maximum t_{off} ns	Min. f_T MHz	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MPQ3799*	60	300	0.1	. . . .	. . . .	60	$4.03	$3.84
MPQ3467*	40	20	500	40	90	250	2.61	2.49
MPQ3725	40	25	500	35	60	250	2.61	2.49
MPQ2483	40	150	1.0	.....	.....	50	3.96	3.77
MPQ3798*	40	150	0.1	.....	.....	60	3.89	3.70
MPQ2484	40	300	1.0	.....	.....	50	4.11	3.91
MPQ6001†	30	40	150	30‡	225‡	200	4.69	4.47
MPQ6002†	30	100	150	30‡	225‡	200	4.91	4.68
MPQ3303	12	40	300	15	20	400	6.86	6.54

CERAMIC DUAL-IN-LINE (CASE 632)

MHQ2907*	60	100	150	30‡	100‡	350	$12.32	$11.73
MHQ3799*	60	300	0.1	. . . .	. . . .	325	13.05	12.43
MHQ2906*	40	40	150	30‡	100‡	350	11.29	10.75
MHQ2221	40	40	150	30	225	350	10.63	10.13
MHQ2222	40	100	150	25	250	350	12.32	11.73
MHQ3798*	40	150	0.1	.....	.....	325	12.10	11.52
MHQ6100†	40	75	1.0	.....	.....	175§	12.10	11.52
MHQ3467*	40	20	500	40	120	. . . .	16.50	15.71
MHQ6001†	30	40	150	.....	.....	400	10.63	10.13
MHQ6002†	30	100	150	.....	.....	400	12.32	11.73
MHQ2483	25	150	1.0	.....	.....	175	14.00	13.34
MHQ2369	15	40	10	9‡	15‡	550	11.80	11.24
MHQ3546*	12	25	50	15‡	25‡	1000	13.34	12.71

FLAT PACK (CASE 607)

MQ2905A*	60	100	150	45	130	225	$40.69	$38.75
2N5146*	40	20	1000	40	120	200	39.30	37.43
MQ3467*	40	20	500	40	120	200	40.69	38.75
MQ3725	40	30	500	45	75	300	37.39	35.61
MQ2219A	40	100	150	60	350	270	40.69	38.75

*PNP; all other types NPN. †Complementary. ‡Typical. §NPN; 130 MHz, PNP.

NPN-PNP SILICON RF TRANSISTORS

For communications and general amplifier applications. Listed in order of increasing test frequency; then in order of increasing output power rating, within each price break-out tables.

NPN RF POWER AMPLIFIERS

Motorola Type	Case	Test Conditions f at V_{CC} MHz	Test Conditions f at V_{CC} V	Min. P_{out} W	Min. BV CBO V	Net Each, Lots of 1-9	Net Each, Lots of 10-49
MRF2004	TO-39	27	12.5	3.5	60	$ 2.35	$ 2.23
2N6370	211-01	30	28	10.0*	65	13.87	13.21
2N5847	145A-01	50	12.5	8.0	36	16.35	15.57
2N6255	TO-39	175	12.5	3.0	36	2.86	2.72
2N5589	144B-03	175	13.6	3.0	36	10.00	9.53
2N6080	145A-01	175	12.5	4.0	36	11.35	10.81
2N5641	144B-03	175	28	7.0	65	8.80	8.38
2N5590	145A-01	175	13.6	10	36	11.95	11.38
2N6081	145A-01	175	12.5	15	36	14.74	14.04
2N3948	TO-39	400	13.6	1.0	36	2.71	2.58
2N5635	144B-03	400	28	2.5	60	10.06	9.58
2N6256	249-01	470	12.5	0.5	36	10.73	10.22
2N5944	244-01	470	12.5	2.0	36	13.08	12.46
MM8003#	TO-39	1000	28	0.9	55	3.55	3.38
2N5070	TO-60	30	28	25*	65	15.21	14.48
2N6368	211-01	30	12.5	40*	36	38.89	37.04
2N5941	211-01	30	28	40*	65	26.61	25.35
2N5848	145A-01	50	12.5	20	48	22.33	21.27
2N5849	145A-01	50	12.5	40	48	31.22	29.73
2N5642	145A-01	175	28	20	65	14.74	14.04
2N6082	145A-01	175	12.5	25	36	16.57	15.78
2N5591	145A-01	175	13.6	25	36	17.38	16.55
2N6083	145A-01	175	12.5	30	36	19.40	18.48
2N5643	145A-01	175	28	40	65	23.20	22.09
2N6084	145A-01	175	12.5	40	36	21.50	20.47
MRF208	145A-01	220	12.5	10	36	17.04	16.23
MRF209	145A-01	220	12.5	25	36	20.19	19.23
2N5636	144B-03	400	28	7.5	60	19.62	18.69
2N5637	145A-01	400	28	20	60	32.48	30.93
MRF5177	215	400	28	30	60	31.70	30.19
2N5945	244-01	470	12.5	4.0	36	18.15	17.29
2N5946	244-01	470	12.5	10	36	21.54	20.52

*PEP. §Tripler. #Also UHF and Microwave oscillators.

MOTOROLA Semiconductors — FIELD EFFECT TRANSISTORS


Case 20


Case 22


Case 28


Case 29


Case 45


Case 51


Case 176


Case 226

RF AMPLIFIERS

Listed in order of decreasing specified test frequency; increasing power gain and noise figure.

Motorola Type	Case	f_T MHz	Minimum G_{ps} dB	Minimum NF dB	Max. C_{rss} pF	Net Ea., Lots 1-9	Net Ea., Lots 10-49
N-CHANNEL JFETs							
U310	27	450	11	3.0	2.5	$2.93	$2.79
2N4416	20	400	10	4.0	0.8	1.75	1.66
2N4416A	20	400	10	4.0	0.8	1.85	1.76
2N5485	29	400	10	4.0	1.0	.75	.71
2N5486	29	400	10	4.0	1.0	.75	.71
MPF256	29	400	12	4.0	1.2	1.17	1.12
MPF102	29	100	..	...	3.0	.66	.63
2N5484	29	100	16	3.0	3.0	.73	.70
J310	29	100	16	3.0	2.5	1.13	1.08
DUAL GATE, N-CHANNEL MOSFETs							
3N209	20	500	10	6.0	0.05	$1.86	$1.77
MFE521	20	500	21	3.5	0.02	1.47	1.40
3N201	20	200	15	5.0	0.03	1.76	1.68
3N202	20	200	15	...	0.03	1.76	1.68
MFE131	20	200	17	5.0	0.05	1.69	1.61
3N212	20	200	21	...	0.05	2.13	2.03
3N211	20	200	29	3.5	0.05	2.13	2.03
3N203	20	45	20	6.0	0.03	1.54	1.47
3N213	20	45	27	4.0	0.025	2.20	2.10

CHOPPERS AND SWITCHES

Listed in order of decreasing $V_{(BR)GSS}$, increasing $r_{ds(on)}$, then in order of increasing C_{rss} and I_{DSS}.

Motorola Type	Case	Min. $V_{(BR)GSS}$ V	Maximum $r_{ds(on)}$ Ohms	Maximum C_{rss} pF	Max. I_{DSS} mA	Net Ea., Lots 1-9	Net Ea., Lots 10-49
N-CHANNEL JFETs							
2N4856	22	40	25	8.0	0.25	$1.99	$1.90
2N4857	22	40	40	8.0	0.25	1.99	1.90
2N4858	22	40	60	8.0	0.25	1.99	1.90
2N5638	29	30	30	4.0	1.0	.78	.74
2N5639	29	30	60	4.0	1.0	.70	.67
2N5640	29	30	100	4.0	1.0	.78	.74
P-CHANNEL JFETs							
MPF970	29	30	100	5.0	10	$1.17	$1.12
MPF971	29	30	250	5.0	10	1.09	1.03
N-CHANNEL MOSFETs							
2N4351	20	25	300	1.3	10	$4.18	$3.98
P-CHANNEL MOSFETs							
MFE3003	20	15	200	1.0	10	$4.40	$4.19

POWER TRANSIENT SUPPRESSORS (CASE 119)

P_D = 350 W max. at T_C = 25° C, T_J = 175° C. $I_{R(max.)}$ at V_R = 50 μADC. MPZ Series is an array of six basic cells, special configurations are available with various power and/or voltage ratings.

Motorola Type	Nom. $V_{OP(PE)}$ VDC	Max. C_T V	$V_{Z(max.)}$ at I_Z* VDC	$V_{Z(max.)}$ at I_Z* ADC	Typ. C μF	Net Ea., Lots of 1-9	Net Ea., Lots of 10-49
MPZ5-16A	14	1.25	24	200	0.025	$45.37	$43.21
MPZ5-16B	14	1.25	20	200	0.025	81.21	77.34
MPZ5-32A	28	1.25	50	100	0.011	32.45	30.91
MPZ5-32B	28	1.25	45	100	0.011	48.48	46.17
MPZ5-32C	28	1.25	40	100	0.011	81.21	77.34
MPZ5-180A	165	1.14	250	20	0.0012	48.48	46.17
MPZ5-180B	165	1.14	225	20	0.0012	81.21	77.34
MPZ5-180C	165	1.14	205	20	0.0012	113.36	107.96

*Pulse width = 1.0 msec.

GENERAL PURPOSE AMPLIFIERS/SWITCHES

Listed in order of increasing gate-source breakdown voltage, and forward transfer admittance.

Motorola Type	Case	Min. V#	Minimum-Maximum I_{DSS} mA	Minimum-Maximum y_{fs} μmhos	Net Ea., Lots 1-9	Net Ea., Lots 10-49
N-CHANNEL JFETs						
2N5459	29	25	4.0–16	2000–6000	$0.73	$0.70
2N5458	29	25	2.0–9.0	1500–5500	.66	.63
2N5457	29	25	1.0–5.0	1000–5000	.66	.63
2N4416	20	30	5.0–15	4500–7500	1.75	1.66
2N4416A	20	30	5.0–15	4500–7500	1.85	1.76
2N3823	20	30	4.0–20	3500–6500	1.61	1.54
2N4222	20	30	5.0–15	2500–6000	1.58	1.51
2N4221	20	30	2.0–6.0	2000–5000	1.58	1.51
2N4220	20	30	0.5–3.0	1000–4000	1.58	1.43
2N4341	22	50	3.0–9.0	2000–4000	2.11	2.01
2N4340	22	50	1.2–3.6	1300–3000	1.91	1.82
2N4339	22	50	0.5–1.5	800–2400	1.91	1.82
P-CHANNEL JFETs						
2N2609	22	30	2.0–10	2500–	$2.27	$2.17
2N2608	22	30	0.9–4.5	1000–	2.20	2.10
2N5462	29	40	4.0–16	2000–6000	1.17	1.12
2N5461	29	40	2.0–9.0	1500–5000	.98	.94
2N5460	29	40	1.0–5.0	1000–4000	1.17	1.12
N-CHANNEL MOSFETs						
3N128	20	20	5.0–25	5000–12000	$2.05	$1.96
MFE3004	20	20	2.0–10	2000–	2.64	2.51
3N171	20	25	–10	1000–	6.16	5.87
3N170	20	25	–10	1000–	8.07	7.68
3N169	20	25	–10	1000–	9.39	8.94
2N4351	20	25	–10	1000–	4.18	3.98
P-CHANNEL MOSFETs						
MFE3003	20	15	–10	.....	$4.40	$4.19
2N4352	20	25	10–25	1000–	3.96	3.77
3N157	20	35	–10	1000–4000	3.78	3.60
3N157A	20	35	–0.25	1000–4000	8.80	8.38

GENERAL PURPOSE AUDIO AMPLIFIERS

Listed in order of increasing gate-source breakdown voltage and forward transfer admittance.

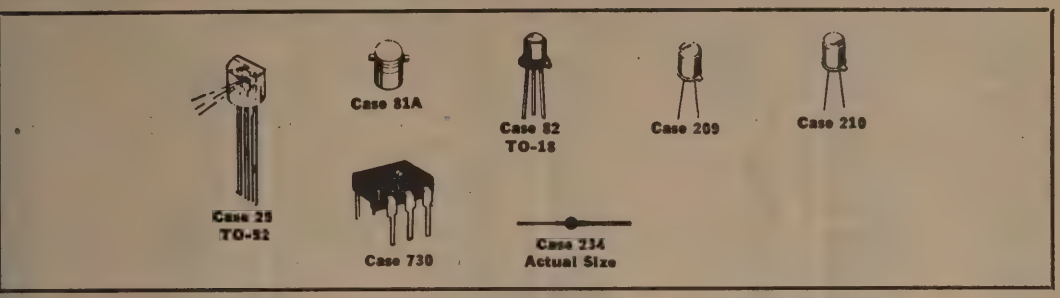
Motorola Type	Case	Min. V#	Minimum-Maximum I_{DSS} mA	Minimum-Maximum y_{fs} μmhos	Net Ea., Lots 1-9	Net Ea., Lots 10-49
N-CHANNEL JFETs						
2N5459	29	25	4.0–16	2000–6000	$0.73	$0.70
2N5458	29	25	2.0–9.0	1500–5500	.66	.63
2N5457	29	25	1.0–5.0	1000–5000	.66	.63
2N4222A	20	30	5.0–15	2500–6000	1.75	1.66
2N4221A	20	30	2.0–6.0	2000–5000	1.75	1.66
2N4220A	20	30	0.5–3.0	1000–4000	1.75	1.66
P-CHANNEL JFETs						
2N3330	20	20	2.0–6.0	1500–3000	$1.29	$1.23
2N5462	29	40	4.0–16	2000–6000	1.17	1.12
2N5461	29	40	2.0–9.0	1500–5000	.98	.94
2N5460	29	40	1.0–5.0	1000–4000	1.17	1.12
N-CHANNEL MOSFETs						
MFE3001	20	20	0.5–6.0	700–3500	$3.30	$3.14
P-CHANNEL MOSFETs						
MFE823	22	25	–20	1000–	$3.08	$2.93

ECONOMY DUAL DIODES (CASE 29)

T_J = 135° C, I_F = 200 mA. $V_{(BR)}$ at I_{BR} = 100 μA; C at V_R = zero; t_{rr} at I_R = 10 mA. Common cathode except MSD6150, common anode; MSD7000, series.

Motorola Type	Min. $V_{(BR)}$ Volts	Maximum C pF	Maximum t_{rr} nsec	Net Each, Lots of 1-9	Net Each, Lots of 10-49
MSD6100	100	1.5	4.0	$0.53	$0.50
MSD6101	50	2.0	10	.59	.56
MSD6102	70	3.0	100	.44	.42
MSD6150	70	8.0	100	.54	.52

LARGER QUANTITY PRICES AVAILABLE ON REQUEST.



OPTOELECTRONIC DEVICES

OPTICAL COUPLERS/ISOLATORS

Motorola Type	Case	Isol. Volts	Trans. Ratio % Min.	Min. BV_{CEO} Volts	Net Ea., Lots 1-9	Net Ea., Lots 10-49
TRANSISTOR OUTPUT						
TIL112	730	7500	2	20	$1.32	$1.26
TIL115	730	7500	2	20	1.32	1.26
IL15	730	7500	6	30	1.47	1.40
IL16	730	7500	6	30	1.47	1.40
MCT26	730	7500	6	30	1.32	1.26
TIL111	730	7500	8	30	1.32	1.26
TIL114	730	7500	8	30	1.32	1.26
IL12	730	7500	10	20	1.32	1.26
TIL118	730	7500	10	20	1.32	1.26
4N27	730	7500	10	30	1.32	1.26
4N28	730	7500	10	30	1.32	1.26
H11A4	730	7500	10	30	1.47	1.40
IL74	730	7500	12.5	20	1.32	1.26
4N25	730	7500	20	30	1.47	1.40
4N26	730	7500	20	30	1.47	1.40
H11A2	730	7500	20	30	1.32	1.26
H11A3	730	7500	20	30	1.47	1.40
H11A520	730	7500	20	30	1.47	1.40
IL1	730	7500	20	30	1.47	1.40
MCT2	730	7500	20	30	1.47	1.40
TIL116	730	7500	20	30	1.32	1.26
4N38	730	7500	20	30	1.91	1.82
H11A5	730	7500	30	30	1.47	1.40
H11A1	730	7500	50	30	1.47	1.40
H11A550	730	7500	50	30	1.47	1.40
TIL117	730	7500	50	30	1.32	1.26
4N35	730	7500	100	30	2.05	1.96
4N36	730	7500	100	30	2.05	1.96
4N37	730	7500	100	30	2.05	1.96
H11A5100	730	7500	100	30	2.20	2.10
DARLINGTON TRANSISTOR OUTPUT						
4N31	730	7500	50	30	$1.61	$1.54
H11B3	730	7500	100	25	2.20	2.10
4N29	730	7500	100	30	1.76	1.68
4N30	730	7500	100	30	1.76	1.68
MCA230	730	7500	100	30	2.05	1.96
H11B255	730	7500	100	55	2.05	1.96
H11B2	730	7500	200	25	2.35	2.23
MCA231	730	7500	200	30	2.20	2.10
MOC119	730	7500	300	30	1.47	1.40
TIL119	730	7500	300	30	1.47	1.40
TIL113	730	7500	300	30	1.76	1.68
MOC8030	730	7500	300	80	2.05	1.96
H11B1	730	7500	500	25	2.79	2.65
4N32	730	7500	500	30	2.05	1.96
4N33	730	7500	500	30	2.05	1.96

INFRARED EMITTING DIODES

Infrared (900 nM typ. peak emission wavelength) gallium arsenide emitters provide high power output in light modulators, shaft or position encoders, punched card and tape readers, optical switching and logic circuits. They are spectrally matched for use with silicon detectors.

Motorola Type	Case	Power Output at I_F µW (Typ.)	Power Output at I_F mA	Forward Voltage V_F (Typ.)	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MLED60	234	550	50	1.2	$2.93	$2.79
MLED92	29	150	50	1.2	.81	.77
MLED90	234	350	50	1.2	2.93	2.79
MLED910	81A	150	50	1.2	5.28	5.03
MLED930	209	650	100	1.2	1.83	1.75

PIN SILICON PHOTODIODES

Designed for application in laser detection, light demodulation, detection of radiation from visible and near infrared LEDs, shaft or position encoders, switching and logic circuits or any design requiring radiation sensitivity and stable characteristics. High speed devices with response time of less than 1.0 ns typical. Dark current = 2.0 nA max. at V_R = 20 V; response time = 1.0 ns typ.

Motorola Type	Case	Lens	H = 2.0 mW/cm² Sensitivity µA/mW/cm²	H = 2.0 mW/cm² Light Current	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MRD500	209	Convex	1.2 min.	6.0 µA min.	$5.13	$4.89
MRD510	210	Flat	0.3 min.	1.5 µA min.	5.13	4.89

NPN SILICON PHOTOTRANSISTORS

H is radiation flux density emitted from a tungsten source at 2870 K.

HIGH DENSITY PHOTOTRANSISTORS

Subminiature NPN silicon phototransistors designed for use in card and tape readers, pattern and character recognition equipment, shaft encoders or any design requiring radiation sensitivity, stable characteristics and high stability. Light current at H = 20 mW/cm².

Motorola Type	Case	Min. Light Current mA	Max. Dark Current nA	Typ. t_s µs	Net Each, Lots of 1-9	Net Each, Lots of 10-49
MRD601	81A	0.5	25	4.8	$5.50	$5.24
MRD602	81A	2.0	25	4.8	5.87	5.59
MRD603	81A	4.0	25	4.8	6.45	6.15
MRD604	81A	7.0	25	4.8	7.11	6.77

*At H = 5.0 mW/cm²; sensitivity = 0.04 mA/mW/cm² at H = 5.0 mW/cm². †Vcc = 20 V; all others Vcc = 30 V. ‡Maximum.

LOW DENSITY PHOTOTRANSISTORS

NPN silicon phototransistors designed for use in industrial inspection, processing and control systems, counters, sorters, switching and logic circuits or any design requiring radiation sensitivity, stable characteristics and moderate mounting density in arrays or single device applications. Sensitivity and light current at H = 5.0 mW/cm²; dark current at Vcc = 20 V.

Motorola Type	Case	Sensitivity mA/mW/cm² Min.	Dark Current nA Max.	Light Current mA Min.	Net Ea., Lots 1-9	Net Ea., Lots 10-49
MRD300*	82	0.8	25	4.0	$3.67	$3.49
MRD310*	82	0.2	25	1.0	1.66	1.58
MRD3050†	82	0.02	100	0.1	1.29	1.23
MRD3051‡	82	0.04	100	0.2	1.44	1.37
MRD3054‡	82	0.125–0.5	100	.625–2.5	1.51	1.44
MRD3055‡	82	0.3	100	1.5	1.58	1.51
MRD3056‡	82	0.4	100	2.0	1.82	1.73

*Maximum Switching Time: 6.5 µs; †11 µs; ‡5.5 µs typical.

SILICON PHOTO DARLINGTON AMPLIFIERS

Designed for use where extremely high sensitivity is required. Plastic side reading devices are the most economical detectors available. Sensitivity and light current at H = 2.0 mW/cm²; dark current at H = 0. Switching time, 400 µsec.

Motorola Type	Case	Sensitivity mA/mW/cm² Typ.	Dark Current nA Max.	Light Current mA Typ.	Net Ea., Lots 1-9	Net Ea., Lots 10-49
2N5777	29	2.0	100	4.0	$0.88	$0.84
2N5778	29	2.0	100	4.0	1.03	.98
2N5779	29	4.0	100	8.0	1.17	1.12
2N5780	29	4.0	100	8.0	1.32	1.26
MRD14B	29	1.0	100	2.0	.81	.77
MRD360	82	.....	100	20	4.91	4.68
MRD370	82	.....	100	10	2.27	2.17

Amperex® Industrial Tubes

POWER • MICROWAVE • SPECIAL PURPOSE

AMPEREX TYPE	Net Each
2C39A	$50.40
2C39/6897	199.35
2C39BA	61.60
2C39WA/7289	52.35
2C40A	197.10
2C43	151.20
2D21	4.70
2E24	37.25
2E26	21.35
2M53A/DX453A	Use DX453B
3B22	33.60
3B24	27.45
3B24W	24.10
3B24WA	27.45
3B24WB	29.10
3B28	22.40
3B29	*
3C23	21.00
3C45/6130	98.60
3E29	56.00
4-65A/8165	85.00
4-125A/4D21	110.00
4-250A/5D22	130.00
4-400A/8438	118.00
4-400AX/8438A	196.00
4-400B/7527	135.00
4B32	31.90
4CS250H/SD621	149.50
4CS250R/SD696	186.00
4CX250B/7203	79.00
4CX250BT	123.00
4CX250FG/8621	93.00
4CX250R/7580W	99.00
4CX350A/8321	112.00
4CX350F/8322	112.00
4CX350FJ/8904	135.00
4D21/4-125A	Use 4-125A
4X150A/7034	69.00
4X500A	423.35
5C22AX	*
5D22/4-250A	Use 4-250A
5J26	3500.00
5J26JAN	3600.00
6DJ8/ECC88	3.90
6Q4/EC80	18.20
6R4/EC81	12.25
56AVP	Use XP2232B
56DUVP	Use XP2020Q
56DVP	Use XP2232B
56TUVP	Use PM2254B
56TVP	Use XP2233B
75NB3	34.00
75NTB3	39.00
76N	38.75
76NB3	39.50
78L	92.50
79L	99.50
85NB3	32.00
90NB3	38.75
100/5575	Use 5575
120NB	106.65
150CVP	695.00
150N	74.00
163G	188.00
171G	290.00
181G2	235.00
181G3.8	244.00
200NB	78.50
200HB	77.50
371B	44.80
481B	72.80
501RA	710.00
572B/T160L	41.25
575A	38.10
576A	67.20
610	Use 7723
616	44.50
617	44.50
619	32.50
623	49.85
632B	89.60
643	46.50
649/5834	Use 5834
672A	* 123.20
673	58.25
677	184.80
678	106.40
734/5544	Use 5544
805	69.50
807	13.00
810	71.00
811A	24.00
813	57.00
828	110.00
829B	$ 70.00
832A	57.10
833A	190.00
836	30.25
845	76.15
845W	116.50
857B	840.00
866A	12.00
866AX	48.00
869B	280.00
869BL	280.00
872A	23.25
872AX	102.20
873	50.40
880	2436.00
889RA/5667	2010.40
892	2128.00
892R	2704.80
912NB3	96.75
1005A	*
1092P	*
4516	Use XP1910
4517	Use XP2008
4518	Use PM2202B
4523	Use XP2000
4524	Use XP2030
4525	Use XP2050
4855	Use XP2012B
4900	Use XP2000
5544/734	78.40
5545	224.00
5550/681	162.40
5551A/652	190.40
5552A/651	263.20
5553B/655	728.00
5555/653	952.00
5557/FG17	17.00
5563A	106.40
5575/100	968.80
5586	1500.00
5586JAN	1560.00
5606	1512.00
5606A	1512.00
5632/C3J	27.45
5654/6AK5W	4.45
5657	1600.00
5657JAN	1675.00
5658	2436.00
5665/C16J	140.00
5667/889RA	2010.40
5683/C1JA	*
5684/C3JA	28.00
5684NE	34.75
5685/C6JA	63.85
5726/6AL5W	4.45
5727/2D21W	6.00
5736	666.40
5762/7C24	Use 7459
5771/356	2329.60
5796	37.00
5822A	352.80
5834/649	48.15
5842	17.85
5842JAN	23.50
5847	21.30
5847A/JAN	25.60
5855	364.00
5866	128.00
5866A/7986	139.00
5867A	170.00
5868	235.00
5869/9950	47.05
5870	392.00
5894	90.80
5894A	90.80
5894B/8737	100.50
5894JAN	142.15
5920/E90CC	13.70
5923	649.60
5924A	879.20
5957	164.65
6011/710	26.30
6014/C1K	25.75
6046	6.30
6075	*
6076	675.00
6076A	600.00
6079	330.40
6084/E80F	22.10
6085/E80CC	20.35
6130	Use 3C45
6146A	12.80
6146B	12.80
6155	91.00
6156	97.00
6159B	$ 24.00
6201/E81CC	5.25
6211A	4.90
6216	10.40
6227/E80L	26.20
6252	119.15
6252JAN	139.70
6268/4C35A	168.00
6279/5C22	188.70
6342A	Use XP2202B
6342A/VI	Use XP2202FL/B
6350	5.25
6360/6360A	9.00
6360JAN	21.90
6386	18.65
6399	487.20
6400	487.20
6400A	498.40
6427	3472.00
6442	127.70
6463	6.80
6508	386.40
6574	31.35
6623	672.00
6686/E81L	10.50
6688	Use 6688A
6688A	14.80
6688JAN	18.65
6689/E83F	15.40
6693	205.00
6696	3500.00
6696A	3416.00
6786	812.00
6800A	1008.00
6807	162.40
6808	162.40
6809	168.00
6855/716	35.85
6857/740P	61.60
6858/760	73.90
6859/760P	79.50
6860/C6JP	64.95
6883B/8032A/8552	16.45
6894	61.60
6897	Use 2C39B
6907	109.75
6907JAN	137.65
6922	7.65
6923/EA52	77.15
6939	30.60
6939 Gold Pin	32.15
6939JAN	38.60
6960A	430.00
6961A	645.00
6989/C6J/KL	69.45
6989NE	80.65
7007	3640.00
7014/604	53.20
7015/604L	57.10
7016/606	78.40
7017/606L	81.75
7018/615	21.85
7019/635	49.30
7020/635L	52.65
7021/714	28.00
7022/740L	58.80
7023/760L	78.40
7034	Use 4X150A
7062/E180CC	17.30
7077	179.20
7090	1000.00
7092	464.80
7119/E182CC	25.20
7136	229.60
7171	*
7203	Use 4CX250B
7203-1/SD655JAN	101.25
7211	80.65
7237A	600.00
7289	60.50
7320/E84L	37.80
7321/1C6JL	64.40
7370	26.00
7377	110.00
7378	224.70
7459	810.00
7486	165.75
7486AL	184.80
7518/710L	37.00
7527/4-400B	Use 4-400B
7527A	203.85
7534/E130L	63.40
7556/C3J/AL	35.05
7580W	Use 4CX250R
7609	88.20
7643/E80CF	$ 36.25
7645	70.55
7693/E90F	21.00
7694/E99F	21.05
7698	78.40
7699	33.50
7703	411.75
7717	5.60
7721/D3A	99.10
7722/E280F	50.70
7723/610	31.35
7723NE	40.35
7737	25.25
7737JAN	34.05
7753	1344.00
7767	Use PM1910
7786/660L	61.60
7786NE	69.45
7788	31.10
7788JAN	55.70
7804	2128.00
7805	2256.80
7806	3304.00
7807	2492.00
7815/3CPN10A5	58.25
7815R	58.25
7815RAL	60.50
7854	133.00
7900	810.00
7984	14.35
7986/5866A	Use 5866A
8005	100.00
8008	23.50
8020/8020W	36.95
8032	15.35
8032A	Use 6883B/8032A/8552
8042	46.00
8078	431.20
8106	3.95
8108/EC157	1260.00
8116/8116A	184.75
8116JAN	221.70
8117/8117A	184.75
8117JAN	221.70
8119	1276.10
8156	12.90
8165/4-65A	Use 4-65A
8233	62.00
8233JAN	70.25
8255/E88C	25.25
8269	1652.00
8270	255.00
8321/4CX350A	Use 4CX350A
8322/4CX350F	Use 4CX350F
8416	20.15
8438/4-400A	Use 4-400A
8438A/4-400AX	Use 4-400AX
8458	40.00
8482	291.20
8505A	102.70
8509	129.35
8533	108.10
8552	Use 6883B/8032A/8552
8560AS	106.40
8575	Use XP2230
8579	149.00
8591	2217.60
8592	1080.80
8593	1517.60
8594	2828.00
8595	37.50
8621	Use 4CX250FG
8624	105.85
8639	248.00
8639JAN	294.70
8643	127.10
8647	168.50
8666	2156.00
8668	1960.00
8670A	680.00
8680	7672.00
8731	963.20
8735	3763.20
8736	4872.00
8737/5894B	100.50
8745	74.50
8752	7252.00
8753	70.40
8798	1456.00
8797JAN	1568.00
8801	3158.40
8812	2280.00
8813	3275.00

★Prices subject to change or withdrawal without notice.

AMPEREX TYPE	Net Each
3814	$1620.00
3867	380.80
3904	Use 4CX350FJ
3906	71.10
3906AL	75.60
3907	71.10
3907AL	75.60
3908	13.55
3913	15.20
3915	3650.00
3918	17136.00
3930/DX393A	100.00
3935	3304.00
3936	4032.00
3937	5320.00
3950	10.25
3952	2296.00
3958	2100.00
3987	1875.00
18503/ZP1200	81.00
18504/ZP1400	78.85
18505/ZP1410	175.00
18509/ZP1310	51.85
18545/ZP1220	148.00
18550/ZP1320	56.15
AX260	946.40
C1A	28.00
C3JAL/7556	37.00
C6H1	85.15
C6H2	88.50
C6J	60.50
C6JK	63.85
DE70/2	436.80

AMPEREX TYPE	Net Each
DE90/1.5	$ 320.30
DX267	3565.00
DX276	1560.00
DX332/2M131	228.60
DX342	7252.00
DX393A	Use 8930
DX453B/2M53A	97.40
DX475	700.00
DX480	3525.00
DX516	890.00
E80CC	Use 6085
E80CF	Use 7643
E80F	Use 6084
E80L	Use 6227
E81CC	Use 6201
E81L/6686	Use 6686
E83F	Use 6689
E84L	Use 7320
E86C	27.45
E88C	Use 8255
E90CC	Use 5920
E90F	Use 7693
E92CC	19.60
E99F	Use 7694
E130L	Use 7534
E180CC	Use 7062
E182CC	Use 7119
E280F	Use 7722
EA52	Use 6923
EA53	90.48
EC80	Use 6Q4
EC81	Use 6R4
EC157	Use 8108

AMPEREX TYPE	Net Each
ECC88	Use 6DJ8
FG17	Use 5557
FG33	Use 5720
HF200	$196.00
HF300	252.00
JP9-2.5D/F	145.60
JP9-2.5E	151.20
JP9-2.5H	166.90
KY21A	119.85
M293-9	22.85
M293-12	22.85
M293-15	22.85
M293-18	22.85
M293-21	22.85
M293-24	22.85
M293-27	22.85
M293-30	22.85
OM62	Use YJ1500
PM1910	Use XP1910
PM1918	440.00
PM1980	190.00
PM1982	198.00
PM2012B	Use XP2012B
PM2013B	Use XP2013B
PM2018B	560.00
PM2202B	Use XP2202B
PM2202FL/B	Use XP2202FL/B
PM2212B	Use XP2212B
PM2232B	Use XP2232B
PM2233B	Use XP2233B
PM2312B	560.00
PM2402	155.00

AMPEREX TYPE	Net Each
R180B	$1173.75
RX21A	108.65
SD612	610.00
T160L	Use 572B
T200	Use HF200
T300	Use HF300
UXCV11	68.30
XP1002	440.00
XP1010	Use XP2010
XP1016	Use XP2013B
XP1110	Use XP1910
XP1118	Use XP1918
XP2000	131.00
XP2008	138.00
XP2010	195.00
XP2020	830.00
XP2020Q	995.00
XP2030	134.00
XP2040	Use XP2041
XP2041	890.00
XP2230	363.00
YD1240	1176.00
YD1412	1305.95
YJ1183A	22750.00
YJ1191A	2275.00
YJ1441	907.20
YJ1442	907.20
YK1001	33040.25
YK1195	35054.20
YK1196	35054.20
YK1197	35054.20
ZB3200	1481.75

Prices subject to change or withdrawal without notice.

BUNKER RAMO AMPHENOL Sockets and Connectors



SHIELDED CABLE CONNECTORS (FIG. A)

With 3-13 cap; available with 3-24 cap. Prices on request.

Amphenol Number	Contacts*/	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
86-PM4	4 M	$1.34	$1.10	$0.95	$0.84	$0.70
86-PM5	5 M	1.37	1.14	.99	.85	.72
86-PM6	6 M	1.40	1.18	1.04	.88	.74
86-PM7S	7 Small M	1.47	1.20	1.05	.92	.77
86-PM8	8 Octal M	1.40	1.18	1.04	.89	.75
86-PM9	9 M	1.47	1.20	1.05	.92	.77
86-PM11	11 M	1.47	1.20	1.05	.92	.77
86-PM12	12 M	1.49	1.23	1.08	.93	.78
78-PF4	4 F	1.81	1.48	1.29	1.13	.94
78-PF5	5 F	1.88	1.54	1.36	1.17	.99
78-PF6	6 F	1.99	1.66	1.42	1.23	1.03
78-PF7S	7 Small F	2.08	1.74	1.53	1.33	1.12
78-PF8	8 Octal F	1.88	1.54	1.36	1.17	.99
78-PF9	9 F	1.81	1.48	1.29	1.13	.94
78-PF11	11 F	2.02	1.68	1.47	1.28	1.07

*F indicates female; M, male.

CP TYPE PLUGS

Mate with std. tube sockets. Panel mt. with retainer ring, 1 3/16" dia. hole; attach to cable with 3-13, -24 cap. Suffix **T**, mica-filled.

86-CP4	4	$0.68	$0.57	$0.49	$0.43	$0.37
86-CP5	5	.70	.59	.52	.44	.38
86-CP6	6	.75	.63	.54	.47	.39
86-CP7S	7	.79	.65	.57	.50	.42
86-CP8	8	.75	.63	.54	.47	.39
86-CP9	9	.79	.65	.57	.50	.42
86-CP11	11	.79	.65	.57	.50	.42
86-CP12	12	.82	.68	.59	.52	.43
86-CP16	16	.82	.68	.59	.52	.43

CAPS

Fig. B and C Types: Rubber grommet types with side outlet for Fig. C style. Takes up to 7/16" diameter cable. Japan black finish except 3-856, clear cadmium finish. **Fig. D Type:** With cable clamp outlet; takes up to 3/8" diameter cable. Clear cadmium finish except 3-24, black epoxy.

Amph. No.	Fig.	Net Each, Lots of* 1-49	50-99	100-249	250-999	1M-2499
86-3-10	.....	$0.29	$0.24	$0.22	$0.18	$0.15
86-3-13	B	.54	.44	.39	.33	.28
86-3-24	D	1.07	.88	.78	.68	.57
86-3-858#	.....	1.18	.98	.84	.73	.63

RECESSING SHELLS

Fig. E Type: Aluminum shell mounts 1 3/16" above or below chassis. Fits 1 3/4" hole, uses three No. 6 screws. **61-61** is cadmium plated steel shell, recesses unit 1 3/16"; mounts in 1 7/16" hole; two 5/32" mounting holes on 1 3/4" centers.

160-61-23	E	$0.95	$0.79	$0.68	$0.60	$0.50
160-61-61	.....	.67	.57	.49	.43	.36

*Dust cap. †Metal outlet; takes up to 5/16" dia. cable. ‡Lots 250–499. §Lots 500–999. #Black thermoplastic; finger grip style.



INDUSTRIAL TUBE SOCKETS AND RELAY SOCKETS

INDUSTRIAL TUBE SOCKETS

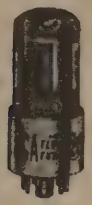
Heavy-duty octal sockets. Barrier-protected screw terminals. Top mounting except 146-203, -204 bottom. UL recognized.

Amph. No.	Fig.	Contacts	Net Each, Lots of* 1-49	50-99	100-249	250-999	1000-2499
146-103	F	8	$2.67	$2.23	$1.93	$1.68	$1.42
146-203	F	8	2.67	2.23	1.93	1.68	1.42
146-104	F	8	3.30	2.74	2.38	2.08	1.74
146-204	F	8	3.30	2.74	2.38	2.08	1.74

With solderless reversible screw terminals. 600 V rms at 10 amps. May be gang mounted.

146-817	....	11	$5.74	$4.79	$4.16	$3.62	$3.05

RCA GENERAL PURPOSE INDUSTRIAL TUBES







RCA Type	Net Each
OA2	$ 4.96
OA2WA	7.07
OA3	15.45
OA4G	14.47
OB2	5.80
OB2WA	7.65
OC3	Use 0C3A
OC3A	9.24
OD3	Use 0D3A
OD3A	11.62
1P21*	105.00
1P22	43.00
1P28	55.00
1P28/V1	Use 1P28A/V1
1P28A	58.00
1P28A/V1	203.00
1P28B	61.00
1P37	34.00
1P39	17.00
1P40	17.00
2BP1*	74.00
2C39WA/C	96.50
2C39WA/G	200.00
2D21	4.55
2E26*	21.50
3A4	8.23
3A5	9.76
3AQP1	61.00
3C23	21.00
3D22A	240.00
3E29*	77.00
3RP1	53.00
3RP1A	74.00
3RP7A	77.00
4-65A	Use 8165/4-65A
4-125A/4D21	110.00
4-250A/5D22	128.00
4-400A	Use 8438/4-400A
4-1000A	Use 8166/4-1000A
4CX250B	79.00
4E27A/5-125B	209.00
4X150A	74.50
4X500A	381.00
5ABP1	160.00
5FP7A*	215.00
5R4GB	5.25
5R4GY	Use 5R4GB
5R4GYB	Use 5R4GB
5UP1*	56.00
5ZP16	301.00
6AH6WA	11.04
6AK6	3.88
6AN5	7.45
6AS6	8.03
6AS7G	Use 6AS7GA
6AS7GA	12.41
6AU6WB	Use 6AU6WC
6AU6WC	5.80
6D4	7.41
6DJ8/ECC88	4.60
6J4	9.01
6J6WA	10.49
6X4W	4.69
9WP4	62.50
12A6	8.99
12AT7WC	6.50
12AY7	5.15
83	14.21
407A	10.49
408A	10.25
502A	Use 2050A
575A*	105.00
604/7014	63.00
615/7018	28.00
673	88.25
710/6011	40.50
714/7021	42.00
760/6858	76.00
807*	23.00
810*	130.00
811A*	33.60
812A	33.60
813*	135.00
816	39.00
828	144.00
829B*	98.00
832A*	72.00

RCA Type	Net Each
833A*	$ 250.00
845	93.00
866A	28.00
869B	400.00
884	15.29
892R	2665.00
918	24.00
921	19.75
922	15.50
925	Use 2022
927	16.75
929	16.75
930	16.75
931A	28.50
931B	31.50
931VA*	28.50
934	23.00
935	44.75
959	25.76
1620	Use 6J7
1621	19.12
1629	5.67
1946	44.50
1949	68.00
2022	21.00
2033	6.25
2042	119.00
2050	Use 2050A
2050A	6.80
2055	33.00
2060	150.00
2065	234.00
4028A	125.00
4042	55.00
4043	55.00
4055	135.00
4058	58.35
4062A	148.00
4065	140.00
4068A	389.00
4076	58.00
4086A	67.00
4086B	66.00
4101A	109.00
4102A	105.00
4407	265.00
4422	Use 931A
4441	Use 4441A
4441A	510.00
4454	1500.00
4456	990.00
4460	504.00
4463	690.00
4464	780.00
4465	853.00
4471	46.25
4478	Use 7735
4488	Use 7735
4501/V3	550.00
4501/V4	510.00
4503	Use 4503A
4503A	485.00
4516	215.00
4517	157.00
4518	203.00
4522	12.20
4523	200.00
4524	200.00
4525	372.00
4526	580.00
4532/HFR	1018.00
4532/HR	948.00
4532/LS	554.00
4532A/U	590.00
4532B/U	1080.00
4532/U	475.00
4532A/ULS	672.00
4532/UF	679.00
4542	527.00
4547	1500.00
4550	4000.00
4552	26.00
4569	800.00
4572A	72.00
4589	667.00
4600A	643.50
4621	566.00

RCA Type	Net Each
4628	$ 3500.00
4629	760.50
4631S	207.00
4635	9000.00
4637	375.00
4638	1500.00
4648	29070.00
4648V1	29070.00
4651	1010.00
4652/8042	47.00
4657	105.00
4661	1760.00
4662	198.00
4665	1235.00
4677	155.00
4687	1053.00
4688	1053.00
4804A/H	2825.00
4804A/HP1, P2, P4	2941.00
4804A/HP5	3412.00
4804B/H	4235.00
4804B/HP1, P2, P4	4353.00
4804B/HP5	4706.00
4804H	1700.00
4804H/P1, P2, P4	1700.00
4804H/P5	2000.00
4807	7400.00
4807A	7400.00
4817	1444.00
4820A	587.00
4821	2979.00
4830	269.00
4831	240.00
4832	450.00
4833/U	455.00
4833A/U	395.00
4836	686.00
4837	308.00
4840	143.00
4848	67.00
4849/H	2940.00
4849A/H	4590.00
4853	400.00
4855	573.00
4856	143.00
4874	377.00
4875/U	400.00
4886	135.00
4900	175.00
4900A	175.00
4902	175.00
4902A	175.00
4903	400.00
4911	800.00
5557	32.25
5560	110.00
5563A	246.00
5581	21.00
5582	23.75
5583	24.50
5636	14.96
5642	13.68
5651	Use 5651A
5651A	7.91
5654	7.27
5654/5W/6096	Use 5654
5663	6.27
5670	5.73
5671	8525.00
5672	7.03
5675*	40.60
5686	8.57
5687	7.64
5691	19.17
5692	16.29
5693	27.15
5696	5.51
5696A	4.90
5718	17.41
5725	6.17
5726	4.97
5727	6.58
5727/2D21W	Use 5727
5749	6.02
5750	6.42
5751	5.80
5763	7.19
5770	7440.00
5771	2539.00
5814A	4.69
5819*	186.00
5823	4.51
5824	12.45
5840W	13.35
5842/417A	17.40
5847/404A	23.48
5876A*	42.00
5881	7.06
5893*	73.00
5899	15.08
5915	6.52
5946*	460.00

RCA Type	Net Each
5963	$ 5.31
5964	5.15
5965	6.32
6005	7.62
6012	16.73
6021	14.59
6072	6.86
6072A	6.87
6073	8.26
6074	8.69
6076	684.00
6076A	650.00
6080	18.61
6080WA	Use 6080 WC
6080WC	33.95
6082	7.93
6101	11.20
6130/3C45	115.00
6136	5.80
6146A	17.00
6146B/8298A	15.15
6146W*	22.00
6155	82.75
6156	Use 4-250A/5D22
6159	Use 6159B
6159B	29.00
6161*	502.00
6173	73.00
6189	6.07
6189/12AU7WA	Use 6189
6197	6.73
6199	158.00
6199A	Use 8301OE
6201	6.43
6202	4.69
6211	5.66
6217	425.00
6263A*	60.00
6264A*	60.00
6293*	25.00
6336A	54.35
6342A	197.00
6342A/V1	157.00
6350	4.69
6360	Use 6360A
6360A	11.30
6386	22.00
6485	4.34
6521A	2222.00
6521R	1556.00
6524	144.00
6550	10.76
6550/V1†	22.11
6562/5794A	40.00
6655A	200.00
6660/6BA6	4.19
6661/6BH6	5.80
6662/6BJ6	5.04
6663/6AL5	4.01
6664/6AB4	4.69
6669/6AQ5A	4.26
6676/6CB6A	4.26
6677/6CL6	6.43
6678/6U8A	4.42
6679/12AT7	3.86
6680/12AU7A	3.74
6681/12AX7A	3.74
6686	14.95
6688	14.79
6697A	Use 8773
6775/4-400C	147.00
6810A	800.00
6816*	133.00
6850	135.00
6883	21.00
6883B/8032A/8552	21.00
6884*	95.00
6922/E88CC	11.29
6939	27.30
6977	16.16
7054	4.30
7055	3.92
7056	5.03
7058	4.59
7059	5.49
7060	6.74
7061	5.21
7094	159.00
7102	264.00
7117	37.00
7167	5.04
7183A	1500.00
7203/4CX250B/V1	Use 4CX250B
7213	942.25
7214	1024.00
7558	6.51
7262A	308.00
7262A/F	655.00
7262A/FR	1400.00
7262A/R	655.00

*Available to MIL specifications at no extra charge. †Price shown is per matched pair.
Prices shown do not include state or local sales and similar taxes. All prices subject to change or withdrawal without notice.

GENERAL PURPOSE INDUSTRIAL TUBES (CONTINUED)

RCA Type	Net Each
265	$915.00
208	11.37
360	15.26
457*	146.00
533*	40.00
551	8.61
552	140.00
554*	140.00
558	8.71
586	18.64
587	33.93
649	558.00
650*	707.00
651*	707.00
735	54.50
735A	121.00
735B	178.00
764	285.00
767	220.00
788	40.87
801	929.00
843*	119.00
905	19.49
000	134.00
005	134.00
008	49.00
020W	57.50
032	21.00
042	Use 4652/8042
053	191.00
055	295.00
072	100.00
077/7054	5.95
106	5.47
121	110.00
122	110.00
122/V1†	269.00
134	314.00
134/F	655.00
134/FR	831.00
134/R	655.00
136	4.06
165/4-65A	117.00
166/4-1000A	520.00
184	9065.00
203	21.85

RCA Type	Net Each
8226	$213.00
8227	Use 4621
8233	55.35
8393	20.12
8437	7440.00
8438/4-400A	150.00
8438A/4-400AX	Use 8438/ 4-400A
8462	247.00
8507	135.00
8507A	221.00
8507A/F	578.00
8507A/FR	690.00
8507A/R	578.00
8541	77.50
8541A	178.00
8541A/F	578.00
8541A/FR	690.00
8541A/R	578.00
8541A/X	344.00
8571	1527.00
8575	554.00
8575/R	151.00
8575/V1	614.00
8575/V2	295.00
8596*	246.00
8627	34.21
8627A	57.90
8644	523.00
8645	486.00
8684	6053.00
8684R	3059.00
8727*	125.00
8773	6235.00
8793	2706.00
8794	2408.00
8828	424.00
8844	54.50
8850	1032.00
8852	1264.00
8854	2000.00
8950	13.88
9002	10.00
9003	14.98
9006	5.77
AJ2102	95.00



RCA Type	Net Each
AJ2103	$ 24.00
AJ2142	244.00
AJ2143	Use AJ2143A
AJ2143A	141.00
AJ2144	58.90
AJ2145	55.70
AJ2175A	593.00
AJ2180	Use AJ2145
AJ2203A	975.00
AJ2207A	280.00
AJ2208	403.00
AJ2208A	415.00
AJ2209A	489.00
AJ2210	60.30
AJ2216	536.00
AJ2223A	715.00
AJ2225	Use AJ2262
AJ2230A	376.00
AJ2232	14.00
AJ2239	131.00
AJ2240	28.00
AJ2241	28.00
AJ2242	28.00
AJ2243	29.50
AJ2244	28.00
AJ2245	28.00
AJ2246	28.00
AJ2247	28.00
AJ2248	28.00
AJ2249	28.00
AJ2250	28.00
AJ2251	44.75
AJ2252	33.50
AJ2253	69.00
AJ2254	96.50
AJ2255	123.00
AJ2256	10.75
AJ2257	10.75
AJ2258	10.75
AJ2259	10.75
AJ2260	16.75
AJ2261	33.50

RCA Type	Net Each
AJ2262	$11.75
AJ2263	56.00
C1K/6014	40.25
C3J/5632	46.25
C3JA/5684	45.50
C3J/L	50.50
C6J/5C21	69.00
C6JA/5685	85.50
C16J/5665	160.00
PF1003C	125.00
PF1004C	138.00
PF1006A	130.00
PF1011	1200.00
PF1012	1053.00
PF1023A	Use PF1023C
PF1023C	842.00
PF1023D	720.00
PF1028	240.00
PF1028B	690.00
PF1038	872.00
PF1039	195.00
PF1040	280.00
PF1041N	70.00
PF1041P	70.00
PF1042	88.50
PF1043	76.00
PF1050	55.00
S1D52501AD	1438.00
S1D52501BD	1993.00
S1D52501D	929.00
S81007E	1280.00
S83006E	185.00
S83006EM1	186.00
S83009E	129.00
S83009EA1	Use S83009E
S83010C	104.00
S83010EM1	105.00
S83019E	131.00
S83019EM1	132.00
S83021E	130.00
S83021EM1	132.00

Available to MIL specifications at no extra cost. **Price on request. †Matched pair.

SPECIAL BROADCAST TUBES

RCA Type	Net Each
F21	$1250.00
CX3000A7	714.00
CX5000H3	1450.00
CX10000A7	1695.00
CX10000H3	1650.00
CX20000A7	2500.00
C25	8480.00
055/V1	135.00
C4532U	1420.00
C4592B	2370.00
C4592G	2370.00
C4592L	2370.00
C4592R	2370.00
C4593R	2600.00
C4594G	2600.00
C4594L	2600.00
C4594R	2600.00

RCA Type	Net Each
BC4809	$ 735.00
BC4809B	735.00
BC4909	2020.00
BC4992B	2445.00
BC4992G	2445.00
BC4992L	2445.00
BC4992R	2445.00
BC4993R	2660.00
BC4994G	2660.00
BC4994L	2660.00
BC4994R	2660.00
5820A/L	3294.00
6166A/7007	2825.00
6181	3380.00
6448	Use 6806
6806	25000.00
7007	Use 6166A/7007

RCA Type	Net Each
7289/3CX100A5	$ 99.50
7295C	4500.00
BC7735	215.00
7389C	3425.00
BC8134	702.00
8161/3CX2500A3	587.00
8167/4CX300A	221.50
8168/4CX1000A	492.00
8169/4CX3000A	995.00
8170/4CX5000A	1168.00
8171/4CX100000D	1345.00
8281/4CX15000A	1556.00
BC8480	1760.00
8480	1112.00
8501	3250.00

RCA Type	Net Each
BC8507	$ 258.00
BC8541	258.00
8791	417.00
8791/V1	417.00
8792	660.00
8792/V1	660.00
8806	2410.00
8807	2410.00
8890	2410.00
8891	3530.00
8916	3530.00
8984	6470.00
8985	1650.00
8986	1260.00
8988	2850.00
9007	3900.00

Prices shown do not include state or local sales and similar taxes. All prices subject to change or withdrawal without notice.

GREENOHM V™ FIXED POWER RESISTORS



Vitreous enamel, wire-wound power resistors are engineered to meet or exceed MIL-R-26 specifications. Wir windings are finest grade resistance alloy. Designed for utmost reliability and stability under adverse condition Teal green enamel finish withstands over-heating without peeling or cracking. Tolerance, ± 5% except values unde 1 ohm, ± 10%. VPR types (up to 20 watts) have wire lead and lug terminals, illustrated at left. VP and VK types (2 watts and up) have lug terminals, and mounting bracket. **Core Size:** VPR-5-F, 1" × 5/16" dia.; VPR-10-F, 1¾" × 5/16" dia.; VPR-20-H, 2" × 7/16" dia.; VP-25-K 2" × 9/16" dia.; VP-50-K, 4" × 9/16" dia.; VK-100-N, 6½" × ¾" dia VK-160-W, 8½" × 1¼" dia.; VK-200-W, 10½" × 1¼" dia.

STOCK VALUES—WITH WIRE AND LUG TERMINALS

8-WATT SERIES VPR-5-F

Ohms	Ohms	Ohms	Ohms
1	50	750	4500
1.5	75	800	5000
2	100	900	6000
3	125	1000	7000
4	150	1100	7500
5	200	1200	8000
7.5	225	1250	9000
10	250	1500	10K
12	300	1750	12.5K
15	350	2000	15K
20	400	2250	17.5K
25	450	2500	20K
30	500	3000	22.5K
35	600	3500	25K
40	700	4000	

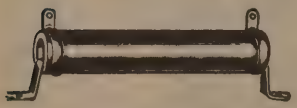
12-WATT SERIES VPR-10-F

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	30	500	3000	13.5K
1	35	600	3500	14.3K
1.2	40	700	4000	15K
1.3	50	750	4500	16K
1.5	75	800	5000	17.5K
2	100	900	6000	18K
3	125	1000	7000	20K
4	150	1100	7500	22.5K
5	200	1200	8000	25K
7.5	225	1250	8500	30K
10	250	1500	9000	35K
12	300	1750	10K	40K
15	350	2000	11K	45K
20	400	2250	12K	50K
25	450	2500	12.5K	

20-WATT SERIES VPR-20-H

Ohms	Ohms	Ohms	Ohms	Ohms
0.4	350	1850	7500	55K
0.6	400	2000	8000	60K
0.8	500	2250	9000	65K
5	650	2400	10K	70K
10	700	2500	12.5K	75K
25	750	2750	15K	80K
50	800	3000	20K	85K
75	850	3500	25K	90K
100	1000	4000	30K	95K
150	1200	4500	35K	100K
200	1250	5000	40K	
250	1500	6000	45K	
300	1750	7000	50K	

STOCK VALUES—WITH LUG TERMINALS AND MOUNTING BRACKET



25-WATT SERIES VP-25-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	800	5000	30K
2	75	1000	6000	35K
3	100	1500	7500	40K
4	150	2000	10K	50K
5	200	2500	12K	60K
10	250	3000	15K	70K
15	500	3600	20K	80K
25	750	4000	25K	100K

50-WATT SERIES VP-50-K

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1000	7500	50K
2	150	1250	8000	75K
3	200	1500	10K	100K
4	250	2000	12K	125K
5	300	2500	15K	150K
10	400	3000	20K	175K
25	500	4000	25K	200K
50	750	5000	30K	225K
75	800	6000	35K	250K

100-WATT SERIES VK-100-N

Ohms	Ohms	Ohms	Ohms	Ohms
1	75	750	7500	60K
2	100	1000	10K	75K
3	125	1500	15K	100K
4	150	2000	20K	200K
5	200	2500	25K	
10	250	3000	30K	
25	300	4000	40K	
50	500	5000	50K	

160-WATT SERIES VK-160-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	7500	50K
2	75	1000	10K	60K
3	100	1500	15K	75K
4	125	2000	20K	100K
5	150	2500	25K	
10	250	3000	30K	
25	500	5000	40K	

200-WATT SERIES VK-200-W

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	500	5000	40K
2	75	750	7500	50K
3	100	1000	10K	60K
4	125	1500	15K	75K
5	150	2000	20K	100K
10	200	2500	25K	
25	250	3000	30K	

"GREENOHM V" FIXED RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250 Up
VPR-5-F 8-Watt	1.0-1K	$0.82	$0.72	$0.59	$0.47	$0.41
	1001-5K	.89	.77	.62	.50	.45
	5001-10K	.93	.80	.65	.56	.47
	10001-20K	1.04	.92	.75	.60	.55
	20001-25K	1.19	1.03	.84	.68	.60
VPR-10-F 12-Watt	Min.-0.9	1.48	1.29	1.02	.83	.74
	1.0-1K	.92	.80	.64	.53	.46
	1001-5K	1.00	.85	.70	.56	.49
	5001-10K	1.02	.87	.79	.64	.56
	10001-20K	1.27	1.10	.89	.72	.64
	20001-35K	1.34	1.17	.81	.77	.68
	35001-50K	1.50	1.30	1.03	.84	.76
VPR-20-H 20-Watt	Min.-0.9	1.52	1.34	1.06	.87	.77
	1.0-1K	1.04	.91	.72	.59	.53
	1001-5K	1.09	.93	.77	.61	.54
	5001-10K	1.28	1.10	.89	.72	.64
	10001-20K	1.33	1.14	.91	.74	.65
	20001-40K	1.52	1.34	1.06	.85	.77
	40001-60K	1.76	1.49	1.24	1.01	.89
	60001-75K	1.86	1.63	1.30	1.05	.93
	75001-100K	2.00	1.75	1.40	1.12	1.00
VP-25-K 25-Watt	1.0-1K	1.10	.99	.92	.62	.56
	1001-5K	1.16	1.01	.80	.65	.58
	5001-10K	1.31	1.14	.91	.74	.66
	10001-20K	1.38	1.19	.99	.79	.70
	20001-40K	1.61	1.40	1.13	.90	.80
	40001-60K	1.86	1.62	1.29	1.04	.93
	60001-75K	2.18	1.92	1.51	1.24	1.11
	75001-100K	2.53	2.19	1.76	1.43	1.27
VP-50-K 50-Watt	1.0-1K	1.70	1.49	1.18	.97	.87
	1001-5K	1.75	1.61	1.14	1.00	.89
	5001-10K	1.89	1.64	1.31	1.08	.96
	10001-20K	2.08	1.81	1.45	1.17	1.04
	20001-40K	2.40	2.10	1.62	1.37	1.22
	40001-60K	2.65	2.40	1.83	1.51	1.34
	60001-80K	3.02	2.65	2.12	1.70	1.51
	80001-100K	3.30	2.85	2.29	1.86	1.64
	100001-125K	3.77	2.95	2.63	2.12	1.95
	125001-150K	4.22	3.62	2.95	2.39	2.12
	150001-175K	4.66	4.06	3.28	2.66	2.35
	175001-200K	4.92	4.28	3.43	2.78	2.51
	200001-250K	5.24	4.58	3.65	2.97	2.65
VK-100-N 100-Watt	1-2	3.33	2.84	2.52	2.16	.....
	3-10	3.01	2.71	2.28	1.95	.....
	15-10K	2.69	2.28	2.04	1.74	.....
	15K-20K	2.88	2.44	2.18	1.87	.....
	25K-75K	2.96	2.60	2.33	2.00	.....
	100K	3.49	2.96	2.66	2.28	.....
	200K	4.61	3.92	3.39	2.91	.....
VK-160-W 160-Watt	1-5	6.27	5.32	4.76	4.07	.....
	10	5.16	4.37	3.90	3.34	.....
	25-20K	4.52	3.83	3.41	2.92	.....
	25K-50K	4.78	4.05	3.62	3.11	.....
	60K-75K	4.99	4.24	3.79	3.24	.....
	100K	5.24	4.46	3.97	3.41	.....
VK-200-W 200-Watt	1-5	8.40	7.13	6.37	5.46	.....
	10	6.08	5.17	4.61	3.95	.....
	25-5K	5.44	4.62	4.13	3.54	.....
	7.5K-50K	5.74	4.86	4.36	3.73	.....
	60K-75K	5.89	5.00	4.46	3.82	.....
	100K	6.39	5.43	4.85	4.23	.....

*Net Each, 100-Up.

GREENOHM V™ ADJUSTABLE POWER RESISTORS

STOCK VALUES

12-WATT SERIES VP-10-FA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	500	2500	8000
2	75	600	3000	8500
3	100	750	3500	9000
5	150	800	4000	10K
7.5	200	1000	4500	
10	250	1250	5000	
15	300	1500	6000	
20	350	2000	7000	
25	400	2250	7500	

25-WATT SERIES VP-25-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	50	750	3500	9000
2	75	800	4000	10K
3	100	1000	4500	12K
5	150	1250	5000	15K
7.5	200	1500	6000	20K
10	250	2000	7000	25K
15	300	2250	7200	
20	400	2500	7500	
25	500	3000	8000	

50-WATT SERIES VP-50-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	100	1250	6000	25K
2	150	1500	7000	30K
3	200	2000	7200	35K
4	250	2250	7500	40K
5	300	2500	8000	50K
10	400	3000	9000	60K
20	500	3500	10K	75K
25	750	4000	12K	80K
50	800	4500	15K	100K
75	1000	5000	20K	

75-WATT SERIES VP-75-KA

Ohms	Ohms	Ohms	Ohms	Ohms
1	200	2000	7200	35K
2	250	2250	7500	40K
3	300	2500	8000	45K
4	400	3000	9000	50K
5	500	3500	10K	60K
10	750	4000	12K	80K
15	800	4500	15K	100K
25	1000	5000	20K	
50	1250	6000	25K	
100	1500	7000	30K	

100-WATT SERIES VK-100-NA

Ohms	Ohms	Ohms	Ohms	Ohms
1	25	400	3500	40K
2	50	500	5000	50K
3	100	750	10K	75K
4	150	1000	15K	100K
5	200	1500	20K	
10	250	2000	25K	
15	300	2500	30K	

160-WATT SERIES VK-160-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	10	250	5000	30K
2	25	500	10K	40K
3	50	1000	15K	50K
4	100	1500	20K	75K
5	150	2500	25K	100K

200-WATT SERIES VK-200-WA

Ohms	Ohms	Ohms	Ohms	Ohms
1	20	200	2500	30K
2	25	250	5000	40K
3	50	300	10K	50K
4	75	500	15K	75K
5	100	1000	20K	100K
10	150	1500*	25K	



Same construction as Greenohm V fixed resistors. Tolerance, ±10%. **Core Size:** VP-10-FA, 1¾" × 9/16" dia.; VP-25-KA, 2" × 9/16" dia.; VP-50-KA, 4" × 9/16" dia.; VP-75-KA, 6" × 9/16" dia.; VK-100-NA, 6½" × ¾" dia.; VK-160-WA, 8½" × 1⅛" dia.; VK-200-WA, 10½" × 1⅛" dia.

ADJUSTABLE POWER RESISTOR PRICES

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250 Up
VP-10-FA 12-Watt	1.0-100	$1.19	$1.10	$0.93	$0.83	$0.80
	1001-5K	1.26	1.14	1.00	.85	.81
	5001-10K	1.40	1.28	1.08	.93	.90
VP-25-KA 25-Watt	1.0-1000	1.35	1.22	1.02	.87	.83
	1001-5K	1.40	1.25	1.04	.91	.85
	5001-10K	1.58	1.38	1.16	1.00	.92
	10001-20K	1.97	1.47	1.22	1.03	.97
	20001-40K	1.83	1.64	1.37	1.16	1.08
VP-50-KA 50-Watt	1.0-1000	2.05	1.81	1.50	1.29	1.22
	1001-5K	2.08	1.86	1.53	1.31	1.24
	5001-10K	2.23	1.97	1.64	1.40	1.30
	10001-20K	2.40	2.14	1.77	1.50	1.40
	20001-40K	2.74	2.33	1.98	1.68	1.54
	40001-60K	2.99	2.65	2.17	1.83	1.69
	60001-80K	3.34	2.96	2.44	2.05	1.87
	80001-100K	3.65	3.16	2.64	2.18	2.00
VP-75-KA 75-Watt	1.0-1000	2.89	2.55	2.12	1.81	.....
	1001-5K	2.95	2.64	2.17	1.83	.....
	5001-10K	3.01	2.67	2.23	1.91	.....
	10001-20K	3.10	2.75	2.29	1.93	.....
	20001-60K	3.44	3.05	2.52	2.12	.....
	60001-100K	3.91	3.44	2.84	2.39	.....
VK-100-NA 100-Watt	1-2	5.74	4.86	4.36	3.73	.....
	3-10	5.28	4.48	4.01	3.43	.....
	15-10K	5.99	4.19	3.73	3.20	.....
	15K-20K	5.19	4.40	3.93	3.37	.....
	25K-30K	5.28	4.48	4.01	3.44	.....
	35K-100K	5.95	5.05	4.52	3.87	.....
VK-160-WA 160-Watt	1-5	8.39	7.12	6.35	5.45	.....
	10	7.20	6.11	5.46	4.69	.....
	25-20K	6.94	5.89	5.26	4.50	.....
	25K-50K	7.09	6.02	5.39	4.61	.....
	60K-75K	7.36	6.24	5.58	4.78	.....
	100K	8.13	6.91	6.15	5.28	.....
VK-200-WA 200-Watt	1-5	10.92	9.26	7.94	6.80	.....
	10	8.42	7.14	6.36	5.47	.....
	25-20K	7.95	6.74	6.03	5.18	.....
	25K-50K	8.09	6.86	6.13	5.26	.....
	60K-75K	8.39	7.12	6.35	5.45	.....
	100K	8.80	7.48	6.68	5.73	.....

*Net Each, 100-Up.

AXIAL LEAD VITREOUS RESISTORS

Ideal for printed circuit, terminal board, and point-to-point wiring applications. Space-saving design, due to elimination of mounting brackets and terminal lugs. Standard resistance tolerance, ±5%. Designed for critical applications, providing high stability and reliability under widely variable environmental conditions. Finished in vitreous shade of teal green. Available in three sizes: 3, 5 or 10 watts. **Size:** VC3D, ¼" dia. × ½" long; VC5E, ⅜" dia. × 1" long; VC10F, 7/16" dia. × 1¾" long. Leads 1¼" long, .032" dia.



STOCK VALUES

Ohms	Ohms	Ohms	Ohms	Ohms
.1	27	330	2200	12K*
.13	30	350	2250	12.5K#
.15	33	390	2500	13.5K*
.2	35	400	2700	15K#
.25	39	450	3000	16K*
.3	40	470	3300	17.5K#
.33	47	500	3500	18K#
.5	50	560	3900	20K#
.75	56	600	4000	22K#
1.	68	680	4500	22.5K#
1.5	75	700	4700	25K#
2	82#	750	5000	27K*
3	100	800	5600	30K*
4	120	820	6000	33K*
5	125	900	6800	35K*
7.5	150	1000	7000	39K*
10	180	1100	7500	40K*
12	200	1200	8000	45K*
15	220	1250	8200	47K*
18	225†	1500	8500*	50K*
20	250	1750	9000	
22	270	1800	10K	
25	300	2000	11K*	

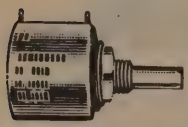
*Available in 10-watt series VC10F only.
#Available in 5- and 10-watt series only.
†Available in 3- and 5-watt series only.

PRICES

When ordering, specify resistance value desired from stock values shown at left.

Series	Range, Ohms	Net Each, Lots of 1-9	10-24	25-99	100-249	250 Up
VC3D 3-Watt	0.1-0.75	$0.77	$0.67	$0.53	$0.44	$0.39
	1-100	.72	.62	.50	.40	.35
	101-2.5K	.65	.57	.45	.36	.33
	2501-5.5K	.75	.64	.52	.42	.38
	5501-7.5K	.80	.69	.55	.45	.40
	7501-10K	.94	.81	.65	.53	.46
VC5E 5-Watt	0.1-0.75	.94	.81	.65	.53	.46
	1-1000	.72	.62	.48	.40	.35
	1001-5K	.75	.64	.52	.42	.37
	5001-10K	.80	.69	.55	.45	.40
	10001-15K	.92	.75	.58	.48	.43
	15001-20K	.97	.84	.67	.55	.48
	20001-25K	1.29	1.10	.88	.73	.65
VC10F 10-Watt	0.1-0.75	1.20	1.06	.84	.68	.61
	1-1000	.77	.67	.53	.44	.39
	1001-5K	.85	.75	.58	.48	.43
	5001-10K	.94	.81	.65	.53	.48
	10001-20K	1.05	.92	.75	.61	.54
	20001-40K	1.20	1.06	.84	.68	.61
	40001-50K	1.42	1.22	.98	.81	.72

SMALL, 10-TURN 2-WATT POTENTIOMETER ONLY ¾" IN BODY LENGTH



Series 73JA has brought the ten-turn potentiometer down in size, down in price and down in wear-outs. Only ¾" body length, and a rotational life of 500,000 cycles. **Resistance Range:** 100-100K ohms. **Resistance Tolerance:** ±5% **Power Rating:** At 20° C, 2 watts. **Operating Temperature Range:** −55°C to +105° C. **Temperature Coefficient:** ±20 PPM/° C max. **End Resistance:** 0.25% or 1 ohm. **Noise During Adjustment (ENR):** 100 ohms, maximum. **Insulation Resistance:** 1000 megohms at 500 VDC. **Dielectric Strength:** 1000 V rms. **Actual Electrical Travel:** 3600° + 10° −0°. **Linearity:** 0.25%, independent. **Mechanical Torque:** 0.5 oz.-in. maximum. **Stop Strength:** 75 oz.-in. minimum. To order, add resistance required to Clarostat No., example **73JA-100.** See stock value, ohms, below.

73JA Resis. Range	Net Each, Lots of					
	1-9	10-24	25-49	50-99	100-249	250 Up
100-25K	$8.10	$7.05	$6.60	$6.15	$5.75	$5.40
50K & 100K	10.10	9.50	8.80	7.70	7.20	6.70

Stock Value, Ohms	Nominal Resolution	Stock Value, Ohms	Nominal Resolution
100	.055%	5000	.020%
200	.037%	10K	.017%
500	.030%	20K	.015%
1000	.025%	50K	.011%
2000	.021%	100K	.009%

SERIES 62JA TEN-TURN POTENTIOMETER



Opens new application areas for the advantages of multi-turn potentiometer design, including far greater resolution in trimming, better instrument control and settings for all types of electronic equipment. Resistance tolerance, ±5%. Functional output, linear. Absolute linearity, ±0.25%. Power dissipation at 25° C, 2 watts, derated to zero at 85° C. Dielectric strength, 1000 VAC. Electrical and mechanical rotation, 3600°, −10, −0. Maximum torque, 3 oz.-in. Stop strength, 50 oz.-in. Insulation resistance, 1000 megohms. Life, 100,000 shaft revolutions. Max. rotation speed, 60 rpm. Size, ⅞" dia. × 2½" overall.

Net Each, Lots of 1-9.....**$11.72**
Net Each, Lots of 10-99.....10.15
Net Each, Lots of 100-Up.....**9.37**

Stock Value, Ohms	Resolutions 100/Total Turns	Stock Value, Ohms	Resolutions 100/Total Turns
100*	.062%	5,000	.026%
200*	.048%	10,000	.024%
250*	.038%	20,000	.019%
500	.036%	25,000	.017%
1,000	.030%	30,000	.016%
2,000	.023%	50,000	.013%
2,500	.022%	100,000	.012%

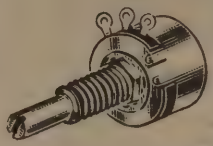
*Absolute linearity, ±0.5%.

MODEL 250 RACK MOUNTED DECADE



Same as Model 240C except for rack mounting. Fits in standard 19" relay rack. **Size:** 19" w. × 13¼" d. × 7" h. Weight, 18½ lbs. **Model 250 Power Resistor Decade Box**—Net Each.....**$381.12**

SERIES 381 1-WATT ⅝" DIA. POTENTIOMETERS



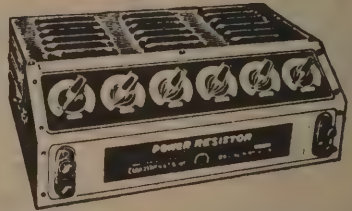
Clarostat "Quiet One" series, a new, low cos potentiometer with characteristics exceeding those of higher priced models. Features reliable, homogeneous, strain-free resistance element with 1% dynamic noise and 5% independent linearity. Mechanical parts pre cision machine-finished for smooth operation long life. Manufactured to MIL-R-94 specifica tions. **Resistance Tolerance:** Linear, up t 500K ohms ±10%; above 500K ohms, ±20% **Power Rating:** 1 watt max. continuous powe rating for linear taper, but voltage not to exceed rating. Full rating at 70° C, derate linearly to zero watts at 120° C. Derate all non-linear tapers by multiplying wattag rating by 0.5. **Mechanical and Rotation:** 300° ±5° with switch. **Dynamic Noise** Linear single controls maximum initial noise level 1% of total resistance. **Linearity** ±5% independent. **Working Voltage:** 350 VDC across end terminals, power not t exceed rating. Models 381N have plain ¼" long bushing, ⅛" long shaft, screwdriver slotted. Models 381NS same, but equipped with attached SPST switch rated 1 amp a 125 VAC or DC. Models 381L have ⅜" shaft-locking bushing, 1/16" long shaft, screwdriver slotted.To order, add resistance required to Clarostat No., example **381N-100.** See Stock Values Table, below.

Clarostat Number	Shaft Length, Screwdriver Slotted	Bushing Length	Net Each, Lots of 1-9	10-49	50-99	100-249
381N	¾"	¼"	$4.15	$3.11	$2.67	$1.94
381NS	¾"	¼"	6.29	4.72	4.05	2.93
381L	7/16"	⅜"	4.42	3.32	2.85	2.06

TABLE OF STOCK VALUES

Ohms				
100	1000	10K	100K	1.0 meg
250	2500	25K	250K	2.5 megs
500	5000	50K	500K	5.0 megs

MODEL 240C PORTABLE DECADE



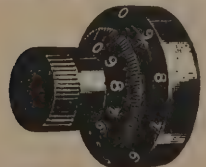
The Model 240C portable resistance decade allows the changing of resistance at a fli of a switch in a working circuit. Any ohms value can be obtained, from one ohm t 999,999 ohms, in steps of one ohm and at a maximum power rating of 225 watts, usin a maximum of 1,000 volts DC or 660 volts AC. Dependable Clarostat 'Greenohm' resistors are used throughout. These are inorganic-cement-coated, wire-woun power resistors. The resistors are mounted on rigid metal supports; a baffle plat separating the resistor bank from the switch assembly protects the latter agains heat. Resistance changing switches are of the type that prevents a resistanc breakdown between steps, thus protecting delicate meters and measurin instruments in the circuit. Pointer knobs indicate at a glance the resistance valu being used.

Resistance Tolerance: ±2.0% all decades except No. 1, ±5.0%.
Max. Current: 5 amps, No. 1; 1.5 amps, No. 2; 0.5 amp, No. 3; 0.15 amp, No. 4; 0.0 amp, No. 5; 0.005 amp, No. 6.

In a heavy gauge metal case, finished in frosted gray wrinkle, with an etche black-and-aluminum front panel. Overall length, 18"; 8¼" deep; 5¾" high. Weight 11.5 lbs.

Model 240C Power Resistor Decade Box—Net.....**$279.5**

CLARODIALS—10-TURN CONCENTRIC SCALE DIALS



Clarodial

Calibrated dials designed for multi-turn potentiometers up to ten turns or other rotary devices. Requires only one inch of panel space. Knob attaches directly to the shaft, and the body of the dial is mounted rigidly to the panel. Therefore, accurate readings with a ratio of 1000 to one for 10 turns are provided with zero backlash and no reading error. Made of anodized aluminum. Mounting requirements: ¼" shaft and ⅜"-32 NEF-2A bushing. Model 411 is black, has no lock. Model 412 is black, has lock. Model 461 is clear, has n lock. Model 462 is clear, has lock.

Clarostat No.	Net Each, Lots of 1-24	25-49	50-99	100-Up
411	$8.74	$8.17	$7.62	$7.36
412	9.43	8.80	8.45	7.82
461	8.74	8.17	7.62	7.36
462	9.43	8.80	8.45	7.82

Clarostat Controls

TYPE "SWE" SWITCHES FOR "AD-A-SWITCH®" CONTROLS



A line of switches for installation on A47 and A47F controls. UL approved.

Clarostat No. SWE-13—SPST switch, 15 amp, 10 VDC. Net Each.....**$1.19**

Clarostat No. SWE-20—DPST switch, 3 amp, 125 VAC. Net Each.....**$0.87**

Clarostat No. SWE-21—Modified DPST switch. One pole on, one off, or with Jumper SPDT. 3 amperes, 125 volts AC or DC. Net Each.....**$0.87**

Clarostat No. SWE-23—Modified DPST switch. One pole on, one off or with Jumper SPDT. 15 amp, 10 VDC. Net Ea...**$1.19**

"PICK-A-SHAFT®" SHAFTS

Net Each.....**$0.52**

Clare. No.	Description
SS-¼	(Male) takes female fitting
RS-2	Round shaft, 2" long
RS-¼	Round, slotted ¼" dia., 3" long
KSS-3	Knurled, split shaft, 3" long
RS-5	Round shaft, 5" long
FS-5	Flatted shaft, 5" long
KSS-5	Knurled, split shaft, 5" long
FS-3	Flatted shaft, 3" long
RS-3	Round shaft, 3" long
DFS-½	Dble. flatted, Philco type ½" l.
FKS-¼	Fine knurled slotted, ¼" long
FKS-½	Fine knurled slotted, ½" long
KFS-3	Knurled flatted shaft, 3" long

SERIES A43 AND A43S 2-WATT WIRE-WOUND CONTROLS

A43 Controls are without switches. A43S Controls have factory attached SPST switches. Available with factory assembled shafts at no extra charge by omitting prefix "A" from number and designating shaft desired. Tolerance, ±10%.

Model A43—Ohms thru 10K Without switch.....**$1.91**

Model A43—15K, 20K, 25K Without switch.....**$2.38**

Model A43—30K, 40K, 50K Without switch.....**$3.01**

†**Any Model A435**—With switch...**$2.89**

Ohms	No. A43- or A43S-	Ohms	No. A43- or A43S-
5	5	400	400
10	10	500	500
20	20	750	750
25	25	1000	1000
30	30	1500	1500
40	40	2000	2000
50	50	2500	2500
75	75	3000	3000
100	100	4000	4000
150	150	5000	5000
200	200	7500	7500
300	300	10K	10K

SERIES A58 WIRE-WOUND CONTROLS

Wire-wound 3-watt controls that will take any of the 13 Pick-A-Shafts. Overall resistance tolerance ±10% for all values. All controls are linear. Available with factory assembled shafts at no extra cost; just order by dropping the prefix letter "A" from the number and specify the type of shaft desired. Prices and information on request.

Resistance Ohms	Clarostat Number	Net Each
1	A58-1	$2.10
2	A58-2	2.10
4	A58-4	2.10
6	A58-6	2.10
10	A58-10	2.10
15	A58-15	2.10
20	A58-20	2.10
25	A58-25	2.10
30	A58-30	2.10
40	A58-40	2.10
50	A58-50	2.10
60	A58-60	2.10
75	A58-75	2.10
100	A58-100	2.10
200	A58-200	2.10
250	A58-250	2.10
300	A58-300	2.10
400	A58-400	2.10
500	A58-500	2.10
750	A58-750	2.10
1000	A58-1000	2.10
1500	A58-1500	2.10
2000	A58-2000	2.10
2250	A58-2250	2.10
2500	A58-2500	2.10
3000	A58-3000	2.10
4000	A58-4000	2.10
5000	A58-5000	2.10
7500	A58-7500	2.10
10K	A58-10K	2.10
15K	A58-15K	2.62
20K	A58-20K	2.62
25K	A58-25K	2.62
30K	A58-30K	3.31
40K	A58-40K	3.31
50K	A58-50K	3.31

2-WATT SERIES 380 POTENTIOMETERS





The "Quiet One" Series 380 exceeds MIL-R-94 specifications. Manufactured in a controlled environment, features stainless steel shafts. 1% dynamic noise and 5% independent linearity. Electrical tolerances are ±10% for values up to 1 megohm; ±20%, 1 meg and above. Linear taper. Specify resistance per table, below. **Size:** 1 31/32" dia. max. x 3/16" d.

Clarostat Model 380C1, Taper S—2" round shaft FMS; ¼" long bushing with ⅜-32-NEF-2A thread. Net Each.....**$3.14**

Clarostat Model 380C2, Taper S—¼" screwdriver slotted shaft FMS; with ½" split locking bushing. Net Each..**$4.20**

Clarostat Model 380C3, Taper S—⅛" screwdriver slotted shaft FMS; ⅛" long bushing with ⅜-32-NEF-2A thread. Net Each.....**$3.14**

Ohms	Ohms	Ohms	Ohms
100	2500	50K	1 meg
150	3500	75K	1.5 meg
250	5000	100K	2 meg
350	7500	150K	2.5 meg
500	10K	200K	3 meg
750	15K	250K	3.5 meg
1000	20K	350K	4 meg
1500	25K	500K	5 meg
2000	35K	750K	

COMPOSITION-ELEMENT

Tolerances are within RETMA standards; overall resistance tolerance ±20% through 100K ohm values and ±30% for all values above 100K ohms.

SERIES A47 ½-WATT CONTROLS

Available with factory assembled shafts at no extra charge. See general description above. Catalog Number indicates the resistance in ohms and †Curves below. Net Each.....**$1.65**

No. A47-	No. A47-	No. A47-	No. A47-
500-S	15K-S	75K-V	1 Meg-Z
750-S	15K-V	100K-S	1.5 Meg-S
1000-S	15K-W	100K-Z	2 Meg-S
1500-S	20K-S	150K-S	2 Meg-Z
2000-S	25K-S	200K-S	2.5 Meg-S
2500-S	25K-W	250K-S	3 Meg-S
3000-S	25K-V	250K-Z	3 Meg-Z
4000-S	30K-S	300K-S	4 Meg-S
5000-S	40K-S	500K-S	4 Meg-Z
7500-S	50K-S	500K-Z	5 Meg-S
10K-S	50K-W	750K-S	5 Meg-Z
10K-V	50K-Z	750K-Z	7.5 Meg-S
10K-W	75K-S	1 Meg-S	10 Meg-S
10K-Z			

†CURVES

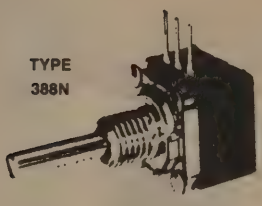
S—Straight or uniform res. change with rotation. **U**—Left-hand 1% res. at 33⅓% of CW rotation. **V**—Right-hand 20% res. at 50% of CCW rotation. **W**—Left-hand 20% res. at 50% of CW rotation. **Z**—Left-hand (Log. audio) 10% res. at 50% of CW rotation.

YOU NEED ONLY CALL ONE TELEPHONE

NUMBER FOR YOUR ELECTRONIC NEEDS.

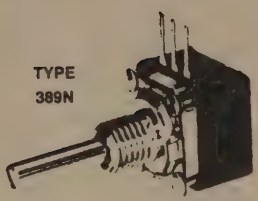
CLAROSTAT SERIES 388, 389 AND 389-5
½" SQUARE MODULAR POTENTIOMETERS

Modular design allows free interchange of resistive elements. The manufacturing process includes exclusive Clarostat TempMaturing™ to insure a reliable, homogeneous and strain-free resistance element. These potentiometers are manufactured to meet MIL-R-94C specifications where applicable.



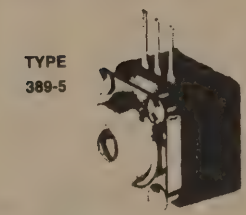
SERIES 388 ½ WATT CONDUCTIVE PLASTIC (CARBON) ELEMENT

Resistance Tolerance: ±10% up to 500K, ±20% above. **Electrical and Mechanical Rotation:** 295° ±5°. **Effective Rotation:** 265° ± 5°. **Dielectric Strength:** 750 VAC for 60 sec. **Working Voltage:** 350 VDC across terminals. **Linearity:** ±5%. **Rotational Life:** 50,000 cycles. **Power Rating:** .5 watt at 70°C. **Torque Range:** .2 to 4.5 oz.-in. **Stop Torque:** 3 lb.-in. **Weight:** .018 lb. (typical). **Insulation Resistance:** 1,000 meg per MIL Std. 202. **Taper:** Linear. **Resolution:** Infinite. **Terminal Style:** Inline PC pins spaced .100". **Mounting Bushing and Shaft:** Type 388N, ¼" plain bushing and ¾" long round slotted shaft; Type 388L, ⅜" locking bushing and 7/16" long round slotted shaft.



SERIES 389 1 WATT CERMET ELEMENT

Resistance Tolerance: ±10%. **Electrical and Mechanical Rotation:** 295° ± 5°. **Effective Rotation:** 250° ± 5°. **Dielectric Strength:** 900 VAC for 60 sec. **Working Voltage:** 350 VDC across terminals. **Linearity:** ±5°. **Rotational Life:** 25,000 cycles. **Power Rating:** 1 watt at 85° C. **Torque Range:** .2 to 4.5 oz.-in. **Operating Temperature:** −55° C to +150° C. **Stop Torque:** 3 lb.-in. **Weight:** .018 lb. (typical). **Insulation Resistance:** 100 meg per MIL Std. 202. **Taper:** Linear except Type 389N—Z, left-hand logarithmic Z audio taper. **Resolution:** Infinite. **Terminal Style:** Inline PC pins spaced .100". **Mounting Bushing and Shaft:** Type 389N, ¼" plain bushing and ¾" long round slotted shaft; Type 389L, ⅜" locking bushing and 7/16" long round slotted shaft.



SERIES 389-5 ½ WATT BUSHINGLESS CERMET ELEMENT

The series 389-5 is similar in characteristics to the series 389, but is designed for bushingless mounting on a PC board and have a flush screwdriver slot for adjustment. **Power Rating:** 0.5 watt at 85° C. **Terminal Style:** Inline PC pins spaced .100".

STOCK RESISTANCE VALUES

100	1000	10K	100K	1 meg
250	2500	25K	250K	2.5 meg*
500	5000	50K	500K	5 meg*

*Not available in Z taper.

PRICING

Clarostat Number*	Net Each, Lots of				
	1-9	10-49	50-99	100-249	250-Up
388N	$4.08	$3.06	$2.63	$1.90	$1.76
388L	4.36	3.27	2.81	2.03	1.88
389N	4.67	3.57	3.06	2.22	2.05
389L	5.04	3.78	3.24	2.35	2.17
389N—Z	5.44	4.08	3.50	2.53	2.34
389-5	4.48	3.36	2.89	2.09	1.93
389-5—Z	5.16	3.87	3.32	2.40	2.22

*For complete catalog number, add resistance value, from stock value chart, at end or between N and Z.

OHMITE® Fixed Resistors

LITTLE DEVIL® MOLDED COMPOSITION RESISTORS



Can be used at full watt-age ratings at 70° C (158° F) ambient temp.

The ¼, ½, 1 and 2 W sizes conform respectively to styles RC07, RC20, RC32 and RC42 of MIL-R-11. Also available per MIL-R-39008 for ¼, ½ and 1 W, ±5% tolerance. Max. continuous rms voltage drop 150 V for ⅛ watt; 250 volts for ¼-watt; 350 V for ½-watt; 500 V for 1-watt; 750 V for 2-watt units. **Size:** .145" l. x .062" dia., ⅛ watt; ¼" l. x .090" dia., ¼ watt; ½" l. x ¼" dia., ½ watt; ¼" l. x ⅜" dia., 1 watt; 1⅛" l. x ⅝" dia., 2 watts.

STOCK RESISTORS

All values available ±5% tol.; **bold types** are ±10% EIA.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs	Megs
1.0	**6.8**	**47**	**330**	**2200**	**15000**	**0.1**	**0.65**	**4.7**
1.1	7.5	51	360	2400	16000	0.11	0.75	5.1
1.2	**8.2**	**56**	**390**	**2700**	**18000**	**0.12**	**0.82**	**5.6**
1.3	9.1	62	430	3000	20000	0.13	0.91	6.2
1.5	**10**	**68**	**470**	**3300**	**22000**	**0.15**	**1.0**	**6.8**
1.6	11	75	510	3600	24000	0.16	1.1	7.5
1.8	**12**	**82**	**560**	**3900**	**27000**	**0.18**	**1.2**	**8.2**
2.0	13	91	620	4300	30000	0.20	1.3	9.1
2.2	**15**	**100**	**680**	**4700**	**33000**	**0.22**	**1.5**	**10.0**
2.4	16	110	750	5100	36000	0.24	1.6	11.0
2.7	**18**	**120**	**820**	**5600**	**39000**	**0.27**	**1.8**	**12.0**
3.0	20	130	910	6200	43000	0.30	2.0	13.0
3.3	**22**	**150**	**1000**	**6800**	**47000**	**0.33**	**2.2**	**15.0**
3.6	24	160	1100	7500	51000	0.36	2.4	16.0
3.9	**27**	**180**	**1200**	**8200**	**56000**	**0.39**	**2.7**	**18.0**
4.3	30	200	1300	9100	62000	0.43	3.0	20.0
4.7	**33**	**220**	**1500**	**10000**	**68000**	**0.47**	**3.3**	**22.0**
5.1	36	240	1600	11000	75000	0.51	3.6	
5.6	**39**	**270**	**1800**	**12000**	**82000**	**0.56**	**3.9**	
6.2	43	300	2000	13000	91000	0.62	4.3	

SPECIFICATIONS AND PRICING

Prices apply to a quantity of one resistance value, one wattage, one tolerance. "Tally Tape"® packaging—each perforated segment holds 5 resistors.

TOLERANCE ±5%

W	Resistance Range, Ohms	Net Each, Lots of 1-9	10-99	100-249	250-499	500-999	1000-4999	5000 Up
⅛	2.7–9.1	$0.63	$0.45	$0.211	$0.20	$0.192	$0.187	$0.18
	10–22 meg	.59	.41	.188	.179	.172	.167	.161
¼	2.7–9.1	.56	.28	.184	.14	.12	.088	.08
	10–1 meg	.26	.13	.085	.065	.056	.041	.037
	1.1–22 meg	.51	.25	.167	.127	.109	.080	.073
½	1.0–2.4	.60	.30	.195	.149	.127	.093	.085
	2.7–9.1	.54	.27	.177	.134	.116	.085	.077
	10–22 meg	.31	.15	.101	.077	.066	.048	.044
1	2.7–22 meg	.46	.23	.15	.113	.097	.071	.065
2	10–22 meg	.81	.41	.27	.203	.174	.127	.116

TOLERANCE ±10%

⅛	2.7–8.2	$0.45	$0.32	$0.146	$0.137	$0.132	$0.127	$0.124
	10–22 meg	.42	.29	.132	.125	.121	.116	.113
¼	2.7–8.2	.31	.15	.101	.077	.066	.048	.044
	10–1 meg	.15	.07	.05	.038	.033	.024	.022
	1.2–22 meg	.27	.14	.08	.068	.058	.042	.039
½	1.0–2.2	.32	.16	.103	.079	.067	.049	.045
	2.7–9.1	.29	.14	.094	.072	.061	.045	.041
	10–22 meg	.14	.07	.046	.035	.03	.022	.02
1	2.7–22 meg	.25	.13	.083	.063	.054	.04	.036
2	10–22 meg	.44	.22	.144	.11	.094	.069	.063

CLAROSTAT CONTROLS

"C LINE®" WIRE-WOUND INDUSTRIAL CONTROLS



Series 58C2



Series 43C2

Clarostat "C Line" controls are designed primarily for industrial applications. They feature moisture and dust-proof construction, corrosion proof finish and locking or standard bushing. Suffix C1 indicates 1⅝" round shaft beyond bushing and ⅝" long bushing with ⅝-32-NEF-2 thread. Suffix C2 indicates ¼" screwdriver slotted shaft, ¼" split locking bushing. One nickel plated hex mounting nut and internal lock washer supplied with all units. All C2 units supplied with a nickel plated machined hex locking nut. Switches, ohmages not listed, tapers not listed, bushings and shaft lengths not listed, and dual combinations are also available on special order. (Prices and delivery information available on request.)

SERIES 43C1 AND 43C2 2-WATT CONTROLS

Smallest 2-watt wire-wound control available up to 50K ohms. Tolerance ±5%. Independent Linearity ±2%.

Ohms	Net Each 43C1	Net Each 43C2	Ohms	Net Each 43C1	Net Each 43C2
5	$3.78	$4.20	1000	$3.78	$4.20
10	3.78	4.20	1500	3.78	4.20
20	3.78	4.20	2000	3.78	4.20
25	3.78	4.20	2500	3.78	4.20
30	3.78	4.20	3000	3.78	4.20
40	3.78	4.20	4000	3.78	4.20
50	3.78	4.20	5000	3.78	4.20
75	3.78	4.20	7500	3.78	4.20
100	3.78	4.20	10K	3.78	4.20
150	3.78	4.20	15K	4.28	4.73
200	3.78	4.20	20K	4.28	4.73
300	3.78	4.20	25K	4.28	4.73
400	3.78	4.20	30K	5.04	5.54
500	3.78	4.20	40K	5.04	5.54
750	3.78	4.20	50K	5.04	5.54

SERIES 58C1 AND 58C2 3-WATT CONTROLS

Tolerance ±5%. Linearity ±1%.

Ohms	Net Each 58C1	Net Each 58C2	Ohms	Net Each 58C1	Net Each 58C2
1	$3.78	$4.20	500	$3.78	$4.20
2	3.78	4.20	750	3.78	4.20
4	3.78	4.20	1000	3.78	4.20
6	3.78	4.20	1500	3.78	4.20
10	3.78	4.20	2000	3.78	4.20
15	3.78	4.20	2500	3.78	4.20
20	3.78	4.20	3000	3.78	4.20
25	3.78	4.20	5000	3.78	4.20
30	3.78	4.20	7500	3.78	4.20
40	3.78	4.20	10K	3.78	4.20
50	3.78	4.20	15K	4.28	4.73
60	3.78	4.20	20K	4.28	4.73
75	3.78	4.20	25K	4.28	4.73
100	3.78	4.20	30K	5.04	5.54
200	3.78	4.20	40K	5.04	5.54
300	3.78	4.20	50K	5.04	5.54
400	3.78	4.20			

2-WATT "C-LINE®" POTENTIOMETERS



53C1



53C2

Molded composition element type totally sealed against moisture. High quality resistance device has high stability under extreme conditions. Use for critical applications such as test equipment, military, computers, servo mechanisms, etc. One-piece wiper assembly; carbon to carbon contact for low noise level; stainless steel shaft; gold plated terminals. Electrical tolerances are ±10% for values up to 1 megohm; ±20%, 1 meg. and above. "S" taper supplied. **Size:** 1 1/16" dia. × 9/16" deep.

Clarostat Model 53C1, Taper Z— Specify resistance value. Net Each **$3.30**

Ohms	Ohms	Ohms
50	7.5K	500K
100	10K	750K
150	15K	1 meg
250	20K	1.5 meg
350	25K	2 meg
500	35K	2.5 meg
750	50K	3 meg
1000	75K	3.5 meg
1500	100K	4 meg
2000	150K	5 meg
2500	200K	7.5 meg
3500	250K	10 meg
5000	350K	

MILITARY WIRE-WOUND AND CARBON POTENTIOMETERS



RV4LAYSA, 53C2

MIL-R-19A VARIABLE WIRE-WOUND POTENTIOMETERS

Certified for MIL-R-19A and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10%. **Ratings:** RA10, one watt. RA20, two watts. RA30, four watts. **Bushing and Shaft:** Specify by letters (i.e. RA20**NAS**D351A). RA10: NASD, ⅜" lg. × ¼" dia.; NASL, 5/16" lg. × ¼" dia.; LASM, 7/16" lg. × ¼" dia., lock bushing. RA10, 20: LASD, ⅜" lg. × ¼" dia., lock bushing. RA20, 30: NASA, ½" lg. × ¼" dia.; NASD, ⅜" lg. × ¼" dia.; LASB, ⅝" lg. × ¼" dia., lock bushing. All have slotted shafts.

Ohms ±10%	No. RA10()-, RA20()-, RA30()-,	Ohms ±10%	No. RA10()-, RA20()-, RA30()-,
3	3R0A*	350	351A
6	6R0A*	500	501A
8	8R0A*	750	751A
10	100A*	1000	102A
15	150A	1500	152A
20	200A*	2000	202A
25	250A	2500	252A
35	350A*	3500	352A*
50	500A	5000	502A*
75	750A	7500	752A*
100	101A	10K	103A*
150	151A	15K	153A*
200	201A	20K	203A†
250	251A	25K	253A†

*Not available in one-watt type. †Not available in one- or two-watt types.

MIL-R-94B VARIABLE 2-WATT CARBON POTENTIOMETERS

Certified for MIL-R-94B and available in common shaft lengths and values. Linear taper. **Tolerance:** ±10% unless otherwise specified. **Rating:** 2 watts. **Bushing and Shaft:** Specify by letters (example: RV4**NAYSD**101A, or 53C3-100-S): NAYSD (53C3) for standard bushing with ⅜" l. × ¼" dia. slotted shaft; LAYSA (53C2) for lock bushing and ⅝" l. × ¼" dia. slotted shaft. **Note:** Where no military number is shown, no MIL value is available; and, only the commercial version may be ordered (53C). All others are dual-marked.

Resis., Ohms ±10%	MIL No. RV4()-	Clarо. No. 53C()-	Resis. Ohms ±10%	MIL No. RV4()-	Clarо. No. 53C()-	Resis., Ohms ±10%	MIL No. RV4()-	Clarо. No. 53C()-
50	500A	50-S	7500	752A	7500-S	500K	504A	500K-S
100	101A	100-S	10K	103A	10K-S	750K†	754B	750K-S
150	151A	150-S	15K	153A	15K-S	1 meg†	105B	1 Meg-S
250	251A	250-S	20K	.....	20K-S	1.5 meg†	155B	1.5 Meg-S
350	351A	350-S	25K	253A	25K-S	2 meg†	205B	2 Meg-S
500	501A	500-S	35K	353A	35K-S	2.5 meg†	255B	2.5 Meg-S
750	751A	750-S	50K	503A	50K-S	3 meg†	.....	3 Meg-S
1000	102A	1000-S	75K	753A	75K-S	3.5 meg†	355B	3.5 Meg-S
1500	152A	1500-S	100K	104A	100K-S	4 meg†	.....	4 Meg-S
2000	.....	2000-S	150K	154A	150K-S	5 meg†	505B	5 Meg-S
2500	252A	2500-S	200K	.....	200K-S	10 meg†	.....	10 Meg-S
3500	352A	3500-S	250K	254A	250K-S			
5000	502A	5000-S	350K	354A	350K-S			

MIL-R-94B HOT MOLDED ½-WATT CARBON POTENTIOMETERS

Rated 0.5 watt at 70° C, derated to zero at 120°C. Available with standard (RV6NAYSD) or locking (RV6LAYSA) bushing. Dia., ½"; 350 WVDC.

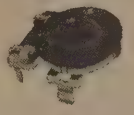
Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-	Ohms ±10%	No.* RV6()-
100	101A	2,500	252A	25,000	253A	250,000	254A
250	251A	5,000	502A	50,000	503A	500,000	504A
500	501A	10,000	103A	100,000	104A	1 meg	105A
1000	102A	15,000	153A	150,000	154A		

INDUSTRIAL NET PRICES

MIL or (Clarostat) Type*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-Up
RV4NAYSD- or (53C3-)	$5.99	$4.19	$4.19	$3.35	$2.39	$1.68
RV4LAYSA- or (53C2-)	6.56	4.59	4.59	3.68	2.63	1.84
RV6NAYSD-	5.50	4.02	4.02	2.41	2.09	1.77
RV6LAYSA	5.50	4.27	4.27	2.56	2.22	1.88
RA20NAS( )	5.24	3.66	3.66	2.57	2.11	1.75
RA20LAS( )	5.24	3.79	3.79	2.70	2.27	1.85
RA30NAS( )	5.92	4.33	4.33	3.13	2.59	2.29
RA30LASB	5.92	4.47	4.47	3.29	2.80	2.48
RA10NAS( )	10.00	7.56	6.50	5.51	4.79	3.73
RA10LAS( )	10.34	7.82	6.73	5.66	4.96	3.85

*Ordering number must show bushing and shaft desired (as described above) and appropriate suffix to indicate ohms. Example: RA20**NASD**3R0A.

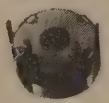
CTS Trimmer Potentiometers


U201

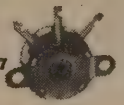

X201


U260


X260


115


P115

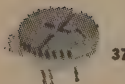

117


115S


362X


362Y


345


375Y


375X


375E

SINGLE-TURN INDUSTRIAL/COMMERCIAL TRIMMER POTENTIOMETERS

HOW TO ORDER: CTS trimmer potentiometers are available in the resistance valu shown for each series. To order, add 3-digit suffix to basic CTS type number to indica resistance value desired. The first two digits of the suffix indicate significant numbe third digit indicates number of zeros. Ex.: **U201R101B** is a Series U201 trimmer with resistance value of 100 ohms and ±20% tolerance; **U201R504B** is the same trimm but with 500K ohms

SERIES 201 ¼-WATT, 19/32″ DIAMETER COMPOSITION TRIMMER

Miniature, low cost carbon trimmers. Snap-in, self-support mounting. Type U201 mou with knob parallel to PC board; type X201 with knob perpendicular to PC board. Bl nylon knob, slotted for either front or rear screwdriver adjustment, with rim to gui screwdriver. **Power Rating:** ¼ watt at 40° C, derated to zero at 85° C (values below 5K ¼ watt at 55° C, derated to zero at 100° C (values of 5 K and above). **Voltage Ratin** 350 VDC max. across end terminals. **Tolerance:** ±20%. **Taper:** Linear. **Angle of R tation:** 260° ±5° total and effective rotation. **Rotational Torque:** ¼ to 6 inch ounc **Stop Strength:** 3 inch pounds. **Terminals:** PC type.

CTS Type	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
U201R X201R	100, 250, 500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg	$0.45 .45	$0.45 .45	$0.40 .40	$0.38 .38	$0.33 .33	$0.30 .30	$0.2 .2

SERIES 260 MINIATURE 10MM COMPOSITION TRIMMER POTENTIOMETERS

Low cost, low profile miniature size trimmer potentiometer designed for either horizontal or vertic mounting. Type U260 is designed for horizontal mounting with adjustment knob parallel to print circuit board. Type X260 designed for vertical mounting with adjustment knob perpendicular to print circuit board. Wide resistance range from 500 ohms through 1 megohm. Adjustment knob is off-whi nylon; has serrated edge, slotted for top or bottom screwdriver adjustment. Top screwdriver slot is .12 x .036″; bottom screwdriver slot, .062″ x .032″. **Tolerance:** ±20%. **Power Rating:** .2 watts at 55° derated to no load at 100° C. **Voltage Rating:** Across end terminals, 350 VDC. **Taper:** linear. **Angle Rotation:** 285° ±5° total rotation; 285° effective rotation. **Rotational Torque:** .3 inch ounces to 3 in ounces. **Stop Strength:** 8 inch ounces. **Size:** .370″ dia. x .154″.

CTS Type	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
U260R X260R	500, 1K, 2.5K, 5K, 10K, 25K, 50K, 100K, 250K, 500K, 1 meg	$0.45 .45	$0.45 .45	$0.40 .40	$0.38 .38	$0.33 .33	$0.30 .30	$0.2 .2

SERIES 115 2-WATT, ¾″ DIAMETER WIREWOUND TRIMMER

Fully enclosed, 2 watt trimmers; insulated rotor construction. Long rotational life. Cross slot in nyl rotor for screwdriver adjustment or optional push-on knob attachment. **Power Rating:** 2 watts at 55° derated to zero at 105° C. **Voltage Rating:** 500 VDC max. operating. **Tolerance:** ±10%. **Taper:** Line **Angle of Rotation:** 270° ±5°. **Rotational Torque:** ½ to 10 inch ounces. **Stop Strength:** 4 inch pound **Terminals:** PC type. **Mounting:** Type 115, PC; Type P115, twist tab; Type 117, rivet ear.

CTS Type	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
115R	5, 10, 25, 50, 100, 250, 500, 1K, 2.5K, 5K, 10K	$1.68	$1.68	$1.34	$1.01	$0.80	$0.60	$0.5
P115R		1.68	1.68	1.34	1.01	.80	.60	.5
117R		1.68	1.68	1.34	1.01	.80	.60	.5

SERIES 345 ¾ WATT, ¼″ DIA. CERMET TRIMMER

Enclosed construction, only ¼″ dia., with nickel-silver alloy housing. Low temperature coefficient, cerm element, positive stop. **Power Rating:** ¼ watt at 25° C, derated to zero at 150° C; ½ watt at 85° C. **Volta Rating:** 300 VDC max. across end terminals. **Tolerance:** ±20%. **Operating Temperature Range:** −55° to +150° C. **Rotation:** 270°. ±5°. **Running Torque:** 2 in.-oz. **Stops:** Positive; 6 in.-oz. max. stop streng **Size:** .250″ round x .180″ h. **Terminals:** PC pins.

CTS Type	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
345PC	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K	$1.67	$1.58	$1.47	$1.40	$1.37	$1.32	$1.2

SERIES 360 ½-WATT, SIDE AND TOP ADJUST CERMET TRIMMERS

Top and side adjust .100″, .150″ and TO-5 pin spacings. Low temperature coefficient cermet eleme flux sealed. Excellent .03% settability. Withstands chlorinated solvents. **Power Rating:** 1 watt at 25° ½ watt at 85° C, derated linearly to zero at 125° C. **Voltage Rating:** 300 VDC max. across end termina **Tolerance:** ±20%. **Operating Temperature Range:** −55° C to +125° C. **Rotation:** 285° (±5°). **Rotatio Torque:** 0.1 to 5.0 in.-oz. **Stops:** Positive; 15 in.-oz. minimum stop strength. **Size:** Types 360S or 360 side or top adjust, .360″ x .434″ x .298″ (.150″ pin centers); Types 362S or 362T, side or top adjust, .355 .312″ x .300″ (.100″ pin centers); Types 362X (side), 362Y and 362U (top) adjust, .355″ x .312″ x .3 (TO-5 pin arrangement). **Terminals:** PC pins.

CTS Type	Adjustment	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
360S	Side	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K or 1 meg	$1.63	$1.53	$1.45	$0.75	$0.68	$0.65	$0.6
360T	Top		1.63	1.53	1.45	.75	.68	.65	.6
362S	Side		1.63	1.53	1.45	.77	.74	.67	.6
362T	Top		1.63	1.53	1.45	.77	.74	.67	.6
362U†	Top		1.63	1.53	1.45	.90	.85	.80	.7
362X*	Side		1.63	1.53	1.45	.77	.74	.67	.6
362Y*	Top		1.63	1.53	1.45	.90	.85	.80	.7

*TO-5 terminal spacing. †200 mil delta grid terminal spacing.

SERIES 375 1-WATT, ⅜″ DIAMETER SIDE AND TOP ADJUST CERMET TRIMMERS

Knob doubles as dust cover. **Temp. Coeff.:** +100 ppm/° C. **Power Rating:** 1 watt at 70° C, derated to load at 125° C. **Voltage Rating:** 250 VDC max. across end terminals. **Operating Temp. Range:** −55° C +125° C. **Tolerance:** ±20%. **Rotation:** electrical, 205° +10°. **Running Torque:** 6.0 oz. in. **Insulati Resis.:** 1000 megs, dry. **Stops:** positive, 12 in. oz. min. **Settability:** .03%. **Pin Centers:** Types 375S a 375T, 0.100″ side and top adjust respectively; Types 375X and 375Y, TO-5 side and top adjust respective Type 375V, side adjust, 0.344″ x 0.156″ offset; Type 375E top adjust, 0.200″ x 0.400″ offset.

CTS Type	Resistance Values, Ohms (Specify)	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499	500 99
375S, T, X, Y, V, E	50, 100, 200, 500, 1K, 2K, 5K, 10K, 20K, 25K, 50K, 100K, 250K, 500K, 1 meg	$0.70	$0.66	$0.62	$0.60	$0.58	$0.54	$0.5

CARBON FILM RESISTORS



Conformal coated carbon film resistors, designed for a variety of industrial and commercial applications. Combines a high degree of reliability with exceptional operating characteristics. **Short Time Overload:** ±(0.3% +0.05 ohms) change at 2 1/2 times rated power for 5 seconds. **Insulation Resistance:** 10,000 megohms min. Available in ±2% or ±5% tolerance.

TYPE CF1/8

Rated 1/8 watt at 70°C ambient; derated to 0 watts at 155°C. **Max. Rated Continuous Working Voltage:** 150 V.

TYPE CF1/4

Rated 1/4 watt at 70°C ambient; derated to 0 watts at 155° C. **Max. Rated Continuous Working Voltage:** 250 V.

TYPE CF1/2

Rated 1/2 watt at 70°C ambient; derated to 0 watts at 155°C. **Max. Rated Continuous Working Voltage:** 350 V.

KSE Type	Tolerance	Resistance Range (Ohms)	Net Each, Lots of			
			100	1,000	5,000	10,000
CF1/8	2%	10-220K	$0.80	$0.098	$0.086	$0.073
	5%	2.2-1 meg	.40	.09	.078	.065
CF1/4	2%	10-5.1	.15	.038	.036	.033
	5%	1-22	.09	.03	.028	.025
	5%	10-10	.15	.039	.036	.034
CF1/2	2%	1-22	.09	.031	.029	.026

METAL OXIDE FILM RESISTORS

Conformal coated metal film resistors, designed for a variety of industrial and commercial applications. Combines a high degree of reliability with exceptional operating characteristics. **Short Time Overload:** Less than 0.5% change at 6 1/4 times rated power for 5 seconds. **Dielectric Withstanding Voltage:** 1,000 V. **Insulation Resistance:** 10,000 megohms min.

TYPE MO1

Rated 1 watt at 70°C ambient; derated to 0 watts at 160°C. **Max. Rated Continuous Working Voltage:** 500 V.

TYPE MO2

Rated 2 watts at 70°C ambient; derated to 0 watts at 160°C. **Max. Rated Continuous Working Voltage:** 500 V.

TYPE MO3

Rated 3 watts at 70°C ambient; derated to 0 watts at 160°C. **Max. Rated Continuous Working Voltage:** 750 V. Also available in 2% tolerance; 5.1 ohm minimum value.

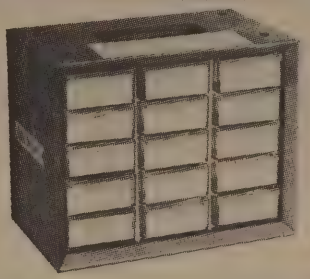
KSE Type	Tolerance	Resistance Range (Ohms)	Net Each, Lots of			
			100	1,000	5,000	10,000
MO1	5%	0.2-100K	$0.30	$0.059	$0.056	$0.052
MO2	5%	0.2-120K	.35	.073	.069	.063
MO3	5%	0.2-150K	.47	.108	.104	.096

MIL STYLE METAL FILM RESISTORS

Conformal coated metal film resistors, designed to meet a variety of military, industrial and commercial applications. High stability combined with low noise and exceptional moisture protection. Meet or exceed MIL-R-10509. Types listed are 1% tolearnce. **Power Rating:** Type MF55D, 1/4 watt; Type MF60D, 1/2 watt; both types derated to 0 watts at 165°C. at 6 1/4 times rated power for 5 seconds. **Dielectric Withstanding Voltage:** 450 V. **Insulation Resistance:** 1 million megohms.

MIL Type	KSE Type	Resistance Range (Ohms)	Net Each, Lots of			
			50	100	250	500
RN55D	MF55D	10-301K	$0.41	$0.15	$0.09	$0.08
RN60D		1-1 meg.	.38	.12	.08	.07
		49.9-499K	.41	.15	.09	.08
	MF60D	1-3.92 meg.	.38	.12	.08	.07

CARBON FILM RESISTOR LAB KITS



Kits contain sturdy, compact, metal cabinet with fifteen 4-compartment drawers. Kits available with 1/8 watt, 5% assortment of 3,000 resistors (60 resistance values, 50 each) or 1/4 watt, 5% assortment of 6,000 resistors (60 resistance values, 100 each).

1/8 WATT KIT

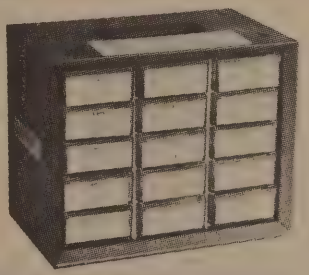
2.2	18	120	820	5.6K	39K
2.7	22	150	1K	6.8K	47K
3.3	27	180	1.2K	8.2K	56K
3.9	33	220	1.5K	10K	68K
4.7K	39	270	1.8K	12K	82K
5.6K	47	330	2.2K	15K	100K
6.8	56	390	2.7K	18K	120K
8.2	68	470	3.3K	22K	150K
10	82	560	3.9K	27K	180K
15	100	680	4.7K	33K	220K

1/4 WATT KIT

2.2	33	270	1.8K	12K	100K
2.7	39	330	2.2K	15K	120K
3.9	47	390	2.7K	18K	150K
4.7	68	470	3.3K	22K	220K
6.8	75	560	3.9K	27K	270K
8.2	100	680	4.7K	33K	390K
10	120	820	5.6K	39K	470K
18	150	1K	6.8K	47K	560K
22	180	1.2K	8.2K	56K	1M
27	220	1.5K	10K	82K	2.2M

KSE 1/8 Watt Resistor Kit—Net Each $99.00
KSE 1/4 Watt Resistor Kit—Net Each 79.00

METAL FILM RESISTOR LAB KIT



Kit contains sturdy, compact, metal cabinet with 18 drawers and 1260 Type MF55, 1/4 watt, 1% and MF60, 1/2 watt, 1% resistors (10 each of 126 values). Each drawer contains 7 resistance values. **Cabinet Size:** 10" l. × 9 1/4" h. × 6 1/4" d.

RESISTANCE VALUES

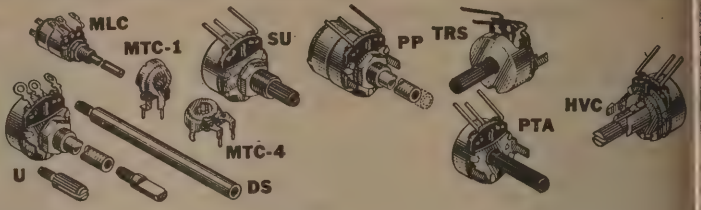
10	75	511	4.22K	33.2K	255K
11	82.5	562	4.75K	39.2K	274K
12.1	90.9	604	5.11K	43.2K	301K
13.3	100	681	5.62K	47.5K	332K
15	107	750	6.19K	49.9K	365K
16.5	121	825	6.81K	56.2K	392K
18.2	133	909	7.5K	61.9K	422K
20	150	1K	8.25K	68.1K	464K
22.1	162	1.1K	9.09K	75K	511K
24.3	174	1.21K	10K	82.5K	536K
26.1	200	1.33K	11K	90.9K	562K
28.7	215	1.5K	12.1K	100K	619K
33.2	237	1.62K	13K	110K	649K
36.5	261	1.82K	15K	121K	681K
39.2	287	2K	16.2K	130K	732K
42.2	301	2.21K	18.2K	150K	750K
46.4	332	2.37K	20K	162K	825K
51.1	348	2.67K	22.1K	178K	866K
56.2	383	3.01K	23.7K	200K	909K
61.9	422	3.32K	27.4K	221K	953K
68.1	475	3.92K	30.1K	237K	1M

KSE Metal Film Resistor Lab Kit—Net Each $99.00

MALLORY Carbon Controls

MIDGETROLS®

Mallory Midgetrols are used in both replacement and industrial applications. Rated 1 watt linear, ½ watt audio taper. 1⅜" dia. **Tapers:** 1, left hand audio; 2, reverse audio; 4, linear.



BUSHING MOUNT—METAL SHAFT

⅜"-32 x ⅜" bushing; shaft ¼" dia. x 2⅛" FMS (Front Mounting Surface). Furnished with two knob adapters and hex nut.

Mallory U Midgetrols—Without taps.
Net Each..... **$2.73**

WITHOUT TAPS

Mall. No.	Resis., Ohms	Taper	Mall. No.	Resis., Ohms	Taper
U1	100	4	U36	75K	1
U2	500	4	U39	100K	1
U52R	500	2	U40	100K	2
U3	1K	2	U41	100K	4
U4	1K	4	U415	125K	4
U5	1500	2	U42	150K	1
U5L	1500	4	U43	200K	4
U6	2K	4	U44	250K	1
U7	2500	2	U45	250K	2
U8	3K	4	U46	250K	4
U9	3K	2	U48	500K	1
U12	5K	1	U50	500K	4
U14	5K	4	U51	750K	1
U18	10K	1	U52	1 meg	2
U19	10K	2	U53	1 meg	1
U20	10K	4	U54	1 meg	4
U21	15K	1	U155	1.5 megs	4
U22	15K	2	U55	2 megs	1
U24	20K	1	U56	2 megs	4
U26	20K	4	U255	2.5 megs	4
U28	25K	2	U57	3 megs	1
U28A	25K	1	U59	3 megs	4
U29	25K	4	U63	5 megs	2
U30	30K	4	U65	5 megs	1
U33	50K	1	U67	5 megs	4
U34	50K	2	U82	10 megs	4
U35	50K	4			

BUSHING MOUNT—NYLON SHAFT

Same bushing as U type. Shaft ¼" dia. x ¾" FMS nylon.

Mallory SU Midgetrols—Net Ea.. **$1.32**

Mallory No.	Resis., Ohms	Taper	Mallory No.	Resis., Ohms	Taper
SU6	1500	4	SU46	250K	4
SU8	3K	4	SU50	500K	4
SU14	5K	4	SU54	1 meg	4
SU20	10K	4	SU56	2 megs	4
SU29	25K	4	SU59	3 megs	4
SU35	50K	4	SU67	5 megs	4
SU41	100K	4			

TAB MOUNT—NYLON SHAFT

Same as TA except has ¼" dia. x 1" FMS nylon shaft. Furn. with 2" shaft extender.

Mallory PTA Midgetrols—Net... **$0.88**

Mall. No.	Ohms	†	Mall. No.	Megs	†
PTA52L	500	4	PTA754L	750K*	4
PTA751L	750	4	PTA16L	1	4
PTA152L	1500	4	PTA1254L	1.25	4
PTA252L	2500	4	PTA26L	2	4
PTA53L	5000	4	PTA355L	3.5	4
PTA54L	50K	4	PTA46A	4	1
PTA15L	100K	4	PTA56R	5	2
PTA35L	300K	4	PTA56L	5	4
PTA55R	500K	2	PTA755L	7.5	4
PTA55L	500K	4	PTA855L	8.5	4

*Ohms. †Taper.

TAB MOUNT—REVERSE NYLON SHAFT

Same as PTA except ¼" dia. nylon shaft projects ¾" out REAR of control. Screwdriver slot in mounting end of shaft.

Mallory TRS Midgetrols—Net... **$0.83**

Mall. No.	Ohms	†	Mall. No.	Ohms	†
TRS12L	100	4	TRS55L	500K	4
TRS751L	750	4	TRS16L	1 M	4
TRS152L	1500	4	TRS26A	2 M	1
TRS53L	5K	4	TRS26L	2 M	4
TRS153L	15K	4	TRS36L	3 M	4
TRS15L	100K	4	TRS46A	4 M	1
TRS254L	250K	4	TRS56L	5 M	4

†Taper

BUSHING MOUNT WITH P-P SWITCH

Standard U control with SPST 6 amps at 125 VAC push-pull switch, UL Approved. Shaft ¼" dia. x 2" FMS. Furnished with knob adapters and hex nut.

Mallory Number	Resis., Ohms	Tap, Ohms	Taper	Net Each
PP13R	1K	.....	2	$2.26
PP252R	2.5K	.....	2	2.26
PP253R	25K	.....	2	2.26
PP15A	100K	.....	1	2.26
PP55A	500K	.....	1	2.26
PP55L	500K	.....	4	2.26
PP16A	1 meg	.....	1	2.26
PP16L	1 meg	.....	4	2.26
PP16T15	1 meg	100K	1	2.53
PP16T25	1 meg	200K	1	2.53
PP16T55	1 meg	500K	2	2.53
PP26A	2 megs	.....	1	2.26
PP26T16	2 megs	1 meg	4	2.26
PP36DT26	3 megs	1 & 2 megs	4	2.53
PP56L	5 megs	.....	4	2.26

SPECIAL CARBON ELEMENT FOCUS CONTROL

Especially designed to withstand high voltage surges in color TV sets. Available in two tab mounting configurations. Nylon shaft, ¼" dia. x 1½" h., FMS.

Mallory No.	Shaft	Resis.	Taper	Net Each
FCT17L	Front	10 meg	4	$1.52
FCT156L	Front	15 meg	4	1.52
FCR156L	Rear	15 meg	4	1.52

HIGH VOLTAGE COLOR CONTROL

To isolate control mounting from up to 4000 volts rms. Nylon insulating mounting plate and ¼" dia. x 1⅛" FMS nylon shaft.

Mallory HVC Midgetrols—Net.. **$1.49**
Mallory HVC355L—Net Each.... **1.63**

Mallory No.	Resistance	Taper
HVC63L	6000 ohms	4
HVC155L	1.5 megs	4
HVC355L	3.5 megs	4

SWITCHES, SHAFT EXTENDERS

Switches for U, UT, UDT, TA or PTA controls.

Mall. No.	Description	Net
US26*	SPST, 6 amps at 125 VAC	$1.32
US26T	SPST, w/dummy terminal	1.61
US27	DPST, 6 amps at 125 VAC	1.61
US28	SPDT, 3 amps at 125 VAC	1.61

*Flame retardant, UL Approved.

½" SUBMINIATURE CONTROLS

Only ½" dia. Rated ¼ watt linear, ⅛ watt audio. ¼"-32 x ¼" bushing with nut. Shaft: ⅛" dia. x 1⅛" FMS, MLC (steel); ⅛" dia. x ⅜" FMS, MLCN (nylon). SPST switch rated 3 amps at 125 VAC, UL Approved. MTC has open screwdriver slot. **Type MLC Bushing Mount.**

Mallory No.	Ohms	Taper	Switch	Net
MLC13L	1000	4	.....	$2.04
MLC222LS	2200	4	SPST	4.00
MLC252A	2500	1	.....	2.04
MLC252AS	2500	1	SPST	4.00
MLC53A	5000	1	.....	2.04
MLC53AS	5000	1	SPST	4.00
MLC53L	5000	4	.....	2.04
MLC53LS	5000	4	SPST	4.00
MLC14A	10K	1	.....	2.04
MLC14AS	10K	1	SPST	4.00
MLC14L	10K	4	.....	2.04
MLC54L	50K	4	.....	2.04
MLC15A	100K	1	.....	2.04
MLC15AS	100K	1	SPST	4.00
MLC15L	100K	4	.....	2.04
MLC25L	200K	4	.....	2.04
MLC254L	250K	4	.....	2.04
MLC55A	500K	1	.....	2.04
MLC55AS	500K	1	SPST	4.00
MLC55LS	500K	4	SPST	4.00
MLCN55A	500K	1	.....	2.04
MLCN55L	500K	4	.....	2.04
MLC16AS	1 meg	1	SPST	4.00
MLC16LS	1 meg	4	SPST	4.00
MLCN16A	1 meg	1	.....	2.04
MLCN16L	1 meg	4	.....	2.04

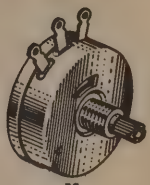
Type MTC PT Mount. Linear taper.
Net Each..... **$0.53**

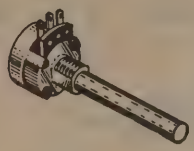
Vert. Mtg.	Horiz. Mtg.	Resis., Ohms
MTC12L1	MTC12L4	100
MTC22L1	MTC22L4	200
MTC251L1	MTC251L4	250
MTC32L1	MTC32L4	300
MTC52L1	MTC52L4	500
MTC751L1	MTC751L4	750
MTC13L1	MTC13L4	1000
MTC152L1	MTC152L4	1500
MTC23L1	MTC23L4	2000
MTC252L1	MTC252L4	2500
MTC33L1	MTC33L4	3000
MTC53L1	MTC53L4	5000
MTC63L1	MTC63L4	6000
MTC682L1	MTC682L4	6800
MTC14L1	MTC14L4	10K
MTC153L1	MTC153L4	15K
MTC24L1	MTC24L4	20K
MTC253L1	MTC253L4	25K
MTC54L1	MTC54L4	50K
MTC15L1	MTC15L4	100K
MTC124L1	MTC124L4	120K
MTC184L1	MTC184L4	180K
MTC254L1	MTC254L4	250K
MTC3253L1	MTC3253L4	325K
MTC454L1	MTC454L4	450K
MTC55L1	MTC55L4	500K
MTC16L1	MTC16L4	1 meg
MTC26L1	MTC26L4	2 megs
MTC3555L1	MTC3555L4	3.5 megs
MTC56L1	MTC56L4	5 megs

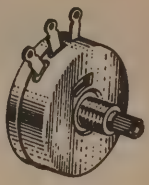
MALLORY Wire Wound Controls


C


R


M


VW


MG

2 WATT TYPE C

Rated 2 watts at 40° C. 1¾" diameter. **Mech. Rotation:** 280°. **Elec. Rotation:** 255°. **Resis. Tolerance:** ±10%. Contact arm grounded. **Bushing:** ⅜"-32 x ⅛". **Shaft:** ¼" dia. x ¾" FMS with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory No.	Ohms Resis.	Carrying Capacity In Amps	Net Each
C6P	6	.58	$3.53
C10P	10	.45	3.53
C50P	50	.2	3.53
C100P	100	.14	3.53
C1MP	1K	.045	3.53
C3MP	3K	.025	3.53
C10MP	10K	.014	3.53

3 WATT TYPE R

Standard TV wire-wound control rated 3 watts at 40° C. 1¾" diameter. **Mech. Rotation:** 297°. **Elec. Rotation:** 290°. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ¼". **Shaft:** ¼" dia. x 1½" FMS, knurled with screwdriver slot. Furn. with nut. See listing below for switches for R controls.

Mallory No.	Ohms Resistance	Net Each
R8L	8	$2.68
R10L	10	2.68
R20L	20	2.68
R25L	25	2.68
R50L	50	2.68
R100L	100	2.68
R250L	250	2.68
R500L	500	2.68
R750L	750	2.68
R1000L	1000	2.68
R1500L	1500	2.68
R2500L	2500	2.68
R3000L	3000	2.68
R5000L	5000	2.68
R10ML	10000	2.81
R15ML	15000	2.81
R20ML	20000	2.81

SWITCH FOR TYPE R POTS

Mall. No.	Description	Net Each
US30	Single Pole, Single Throw	$0.74

4 WATT TYPE M

Rated 4 watts at 40° C. 1⅝" diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜" FMS. **Shaft:** ¼" dia. x ¾" FMS, knurled with screwdriver slot. Furn. with nut.

POTENTIOMETERS

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
M1PK	1	2.00	$3.51
M3PK	3	1.15	3.51
M6PK	6	.82	3.51
M10PK	10	.63	3.51
M15PK	15	.52	3.51
M20PK	20	.45	3.51
M25PK	25	.40	3.51
M30PK	30	.37	3.51
M40PK	40	.32	3.51
M50PK	50	.28	3.51
M60PK	60	.26	3.51
M75PK	75	.23	3.51
M100PK	100	.20	3.51
M200PK	200	.14	3.51
M300PK	300	.116	3.51
M400PK	400	.10	3.51
M500PK	500	.09	3.51
M600PK	600	.082	3.51
M1MPK	1K	.063	3.51
M1.5MPK	1.5K	.052	3.51
M2MPK	2K	.045	3.51
M2.5MPK	2.5K	.04	3.51
M3MPK	3K	.037	3.51
M4MPK	4K	.032	3.51
M5MPK	5K	.028	3.51
M10MPK	10K	.02	3.51
M15MPK	15K	.016	3.94
M20MPK	20K	.014	3.94
M25MPK	25K	.013	3.94
M50MPK	50K	.009	3.94
M70MPK	70K	.0075	3.94
M100MPK	100K	.0062	3.94

RHEOSTATS*

Mallory Number	Ohms Resis.	Capacity In Amps	Net Each
M05RK	0.5	2.80	$5.29
M6RK	6	.82	5.29
M10RK	10	.63	5.29
M15RK	15	.52	5.29
M50RK	50	.28	5.29

*"Open" or "Off" position counter-clockwise.

STANDARD TAPER FOR MALLORY WIRE-WOUND CONTROLS IS NORMAL LINEAR TAPER. OTHER TAPERS MAY BE SPECIFIED ON SPECIAL ORDER.

5 WATT TYPE VW SUBMINIATURE

Rated 5 watts at 35° C. ¾" diameter. **Mech. Rotation:** 305°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜". **Shaft:** ¼" dia. x 2½" FMS. Furn. with nut and lug.

Mallory No.	Ohms Resistance	Net Each
VW1	1	$2.88
VW2	2	2.88
VW3	3	2.88
VW5	5	2.88
VW6	6	2.88
VW8	8	2.88
VW10	10	2.88
VW15	15	2.88
VW20	20	2.88
VW25	25	2.88
VW30	30	2.88
VW40	40	2.88
VW50	50	2.88
VW60	60	2.88
VW75	75	2.88
VW100	100	2.88
VW200	200	2.88
VW250	250	2.88
VW300	300	2.88
VW400	400	2.88
VW500	500	2.88
VW600	600	2.88
VW750	750	2.88
VW1K	1000	2.88
VW1P5K	1500	2.88
VW2K	2000	2.88
VW2P5K	2500	2.88
VW3K	3000	2.88
VW4K	4000	2.88
VW5K	5000	2.88
VW7P5K	7500	3.01
VW10K	10000	3.01
VW15K	15000	3.01
VW20K	20000	3.01
VW25K	25000	3.01

12½ WATT TYPE MG

Rated 12½ watts at 35° C. 1⅝" diameter. **Mech. Rotation:** 294°. **Elec. Rotation:** 275°. **Resis. Tolerance:** ±10%. **Voltage Breakdown:** 900 VAC rms. **Bushing:** ⅜"-32 x ⅜" FMS. **Shaft:** ¼" dia. x ¾" FMS, knurled with screwdriver slot. Furn. with nut.

Mallory No.	Ohms Resistance	Net Each
MG1	1	$3.76
MG3	3	3.76
MG10	10	3.76
MG15	15	3.76
MG25	25	3.76
MG50	50	3.76
MG100	100	3.76
MG200	200	3.76
MG500	500	3.76
MG1000	1000	3.76
MG1500	1500	3.76
MG4000	4000	4.09
MG5000	5000	4.09
MG10K	10K	4.09
MG25K	25K	4.36
MG50K	50K	5.94
MG100K	100K	6.08

OHMITE® Precision Resistors

TYPE 884 RITEOHM® PRECISION MOLDED WIRE-WOUND RESISTORS

±1% TOLERANCE, INSULATED FOR 1000 VOLTS



Precision power resistors, available in power ratings of 3, 5 and 10 watts, depending upon the resistance value. Single layer wound on ceramic cores, with pressure-molded jacket of tough, resilient, Ohmicone® silicone-ceramic material to meet MIL-R-26, 1000 VAC insulation test. Aged for long term stability; negligible inductance at audio frequencies. Temperature coefficient of resistance is 0 ± 10 ppm/° C except 3-watt size: Below 1 ohm, 0 ± 90 ppm/°C; 1 ohm thru 9.76 ohms, 0 ± 50 ppm/°C; 10 ohms thru 97.6 ohms, 0 ± 20 ppm/°C. Write for information on non-standard values, closer tolerances or special construction.

DIMENSIONS

Rating	Diameter x Length	Leads
3-watt	.230″ x .542″	#20 AWG, 1½″ long
5-watt	.323″ x .917″	#18 AWG, 1½″ long
10-watt	.343″ x 1.823″	#18 AWG, 1½″ long

PRICING

Resistance Range, Ohms	Net Each, Lots of 1-9	10-49	50-99	100 U
3-WATT RESISTORS				
0.1 thru 0.825	$1.80	$1.53	$1.27	$1.10
1.0 thru 1.1	1.72	1.46	1.21	1.03
1.21 thru 10	1.24	1.05	.87	.73
11 thru 1000	1.21	1.02	.84	.72
1100 thru 10,000	1.24	1.05	.87	.73
15,000 thru 20,000	1.47	1.26	1.03	.89
20,500 thru 22,100	1.57	1.33	1.10	.94
5-WATT RESISTORS				
0.1 thru 0.825	$2.06	$1.75	$1.44	$1.24
1.0	1.96	1.67	1.37	1.17
1.1 thru 10	1.42	1.21	1.00	.85
11 thru 1000	1.35	1.14	.95	.81
1100 thru 10,000	1.42	1.21	1.00	.85
15,000 thru 20,000	1.66	1.41	1.15	1.00
20,500 thru 22,100	1.77	1.50	1.25	1.06
23,700 thru 36,500	1.84	1.58	1.29	1.10
40,200 thru 80,600	2.16	1.84	1.51	1.30
10-WATT RESISTORS				
0.1 thru 1.0	$2.06	$1.75	$1.44	$1.24
1.1 thru 10,000	1.49	1.27	1.05	.90
15,000 thru 20,000	1.74	1.48	1.22	1.05
20,500 thru 22,100	1.94	1.65	1.35	1.15
23,700 thru 36,500	2.21	1.88	1.56	1.33
40,200 thru 49,900	2.50	2.12	1.75	1.50
51,500 thru 80,600	2.72	2.31	1.90	1.63
82,500 thru 100,000	3.91	3.33	2.75	2.35
150,000	4.83	4.11	3.39	2.90
174,000 thru 200,000	5.78	4.92	4.05	3.46

STOCK VALUES

Resistance Ohms	3 Watt Ohmite Number	5 Watt Ohmite Number	10 Watt Ohmite Number
.100	80013	80015	80010
.121	80023	80025	80020
.150	80033	80035	80030
.200	80053	80055	80050
.221	80063	80065	80060
.249	80073	80075	80070
.274	80083	80085	80080
.392	80103	80105	80100
.475	80113	80115	80110
.499	80123	80125	80120
.681	80143	80145	80140
.750	80153	80155	80150
.825	80163	80165	80160
1.00	80173	80175	80170
1.10	80213	80215	80210
1.21	80253	80255	80250
1.43	80323	80325	80320
1.50	80343	80345	80340
1.58	80363	80365	80360
1.82	80423	80425	80420
2.00	80463	80465	80460
2.21	80503	80505	80500
2.49	80553	80555	80550
2.74	80593	80595	80590
3.01	80633	80635	80630
3.32	80673	80675	80670
4.02	80753	80755	80750
4.42	80793	80795	80790
4.53	80803	80805	80800
4.99	80843	80845	80840
5.11	80853	80855	80850
6.19	80933	80935	80930
6.81	80973	80975	80970
7.50	81013	81015	81010
8.06	81043	81045	81040
9.09	81093	81095	81090
10.0	81133	81135	81130
11.0	81173	81175	81170
12.1	81213	81215	81210
13.0	81243	81245	81240
14.0	81273	81275	81270
15.0	81303	81305	81300
18.2	81383	81385	81380
20.0	81423	81425	81420
22.1	81463	81465	81460
24.3	81503	81505	81500
24.9	81513	81515	81510
27.4	81553	81555	81550
30.1	81593	81595	81590
33.2	81633	81635	81630
34.8	81653	81655	81650
38.3	81693	81695	81690
39.2	81703	81705	81700
40.2	81713	81715	81710
43.2	81743	81745	81740
47.5	81783	81785	81780
49.9	81803	81805	81800
51.1	81813	81815	81810
56.2	81853	81855	81850
59.0	81873	81875	81870
60.4	81883	81885	81880
61.9	81893	81895	81890
68.1	81933	81935	81930
75.0	81973	81975	81970
82.5	82013	82015	82010
88.7	82043	82045	82040
90.9	82053	82055	82050
100	82093	82095	82090
115	82153	82155	82150
121	82173	82175	82170
130	82203	82205	82200
150	82263	82265	82260
162	82293	82295	82290
169	82313	82315	82310
174	82323	82325	82320
178	82333	82335	82330
182	82343	82345	82340
200	82383	82385	82380
205	82393	82395	82390
215	82413	82415	82410
221	82423	82425	82420
249	82473	82475	82470
255	82483	82485	82480
274	82513	82515	82510
301	82553	82555	82550
332	82593	82595	82590
340	82603	82605	82600
365	82633	82635	82630
374	82643	82645	82640
383	82653	82655	82650
392	82663	82665	82660
402	82673	82675	82670
432	82703	82705	82700
453	82723	82725	82720
475	82743	82745	82740
499	82763	82765	82760
511	82773	82775	82770
562	82813	82815	82810
604	82843	82845	82840
619	82853	82855	82850
681	82893	82895	82890
715	82913	82915	82910
750	82933	82935	82930
806	82963	82965	82960
825	82973	82975	82970
909	83013	83015	83010
953	83033	83035	83030
1000	83053	83055	83050
1100	83093	83095	83090
1180	83123	83125	83120
1300	83163	83165	83160
1470	83213	83215	83210
1500	83223	83225	83220
1620	83253	83255	83250
1780	83293	83295	83290
1820	83303	83305	83300
2000	83343	83345	83340
2150	83373	83375	83370
2210	83383	83385	83380
2260	83393	83395	83390
2430	83423	83425	83420
2490	83433	83435	83430
2740	83473	83475	83470
2940	83503	83505	83500
3010	83513	83515	83510
3090	83523	83525	83520
3160	83533	83535	83530
3240	83543	83545	83540
3320	83553	83555	83550
3480	83573	83575	83570
3920	83623	83625	83620
4020	83633	83635	83630
4750	83703	83705	83700
4870	83713	83715	83710
4990	83723	83725	83720
5110	83733	83735	83730
5490	83763	83765	83760
5620	83773	83775	83770
6040	83803	83805	83800
6190	83813	83815	83810
6650	83843	83845	83840
6810	83853	83855	83850
6980	83863	83865	83860
7500	83893	83895	83890
8060	83923	83925	83920
8250	83933	83935	83930
8870	83963	83965	83960
10,000	84013	84015	84010
15,000	84183	84185	84180
20,000	84303	84305	84300
20,500	84313	84315	84310
22,100	84343	84345	84340
23,700	.....	84375	84370
24,900	.....	84395	84390
25,500	.....	84405	84400
27,400	.....	84435	84430
30,100	.....	84475	84470
34,000	.....	84525	84520
36,500	.....	84555	84550
40,200	.....	84595	84590
43,200	.....	84625	84620
45,300	.....	84645	84640
47,500	.....	84665	84660
49,900	.....	84685	84680
51,500	.....	84695	84690
80,600	.....	84885	84880
82,500	.....	.....	84890
90,900	.....	.....	84930
100,000	.....	.....	84970
150,000	.....	.....	85148
174,000	.....	.....	85200
200,000	.....	.....	85260

OHMITE® Fixed Resistors

BROWN DEVIL® FIXED RESISTORS—TYPE 200



Wire-wound, vitreous enameled resistors, durable and rugged. **Resistance Tolerance:** For values 1 ohm and higher, ±5%; for 0.5 ohm, ±10%. Tinned leads 1¼" lg.; 3 and 5¼ W, 20 AWG; 8, 12 and 20 W, 18 AWG.

3-Watt Size				5¼-Watt Size			
Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	2712	150	2764	1.0	2822	150	2874
1.1	2713	160	2765	1.1	2823	160	2875
1.2	2714	180	2766	1.2	2824	180	2876
1.3	2715	200	2767	1.3	2825	200	2877
1.5	2716	220	2768	1.5	2826	220	2878
1.6	2717	240	2769	1.6	2827	240	2879
1.8	2718	270	2770	1.8	2828	270	2880
2.0	2719	300	2771	2.0	2829	300	2881
2.2	2720	330	2772	2.2	2830	330	2882
2.4	2721	360	2773	2.4	2831	360	2883
2.7	2722	390	2774	2.7	2832	390	2884
3.0	2723	430	2775	3.0	2833	430	2885
3.3	2724	470	2776	3.3	2834	470	2886
3.6	2725	510	2777	3.6	2835	510	2887
3.9	2726	560	2778	3.9	2836	560	2888
4.3	2727	620	2779	4.3	2837	620	2889
4.7	2728	680	2780	4.7	2838	680	2890
5.1	2729	750	2781	5.1	2839	750	2891
5.6	2730	820	2782	5.6	2840	820	2892
6.2	2731	910	2783	6.2	2841	910	2893
6.8	2732	1000	2784	6.8	2842	1000	2894
7.5	2733	1100	2785	7.5	2843	1100	2895
8.2	2734	1200	2786	8.2	2844	1200	2896
9.1	2735	1300	2787	9.1	2845	1300	2897
10	2736	1500	2788	10	2846	1500	2898
11	2737	1600	2789	11	2847	1600	2899
12	2738	1800	2790	12	2848	1800	2900
13	2739	2000	2791	13	2849	2000	2901
15	2740	2200	2792	15	2850	2200	2902
16	2741	2400	2793	16	2851	2400	2903
18	2742	2700	2794	18	2852	2700	2904
20	2743	3000	2795	20	2853	3000	2905
22	2744	3300	2796	22	2854	3300	2906
24	2745	3600	2797	24	2855	3600	2907
27	2746	3900	2798	27	2856	3900	2908
30	2747	4300	2799	30	2857	4300	2909
33	2748	4700	2800	33	2858	4700	2910
36	2749	5100	2801	36	2859	5100	2911
39	2750	5600	2802	39	2860	5600	2912
43	2751	6200	2803	43	2861	6200	2913
47	2752	6800	2804	47	2862	6800	2914
51	2753	7500	2805	51	2863	7500	2915
56	2754	8200	2806	56	2864	8200	2916
62	2755	9100	2807	62	2865	9100	2917
68	2756	10K	2808	68	2866	10K	2918
75	2757			75	2867	11K	2919
82	2758			82	2868	12K	2920
91	2759			91	2869	13K	2921
100	2760			100	2870	15K	2922
110	2761			110	2871	16K	2923
120	2762			120	2872	18K	2924
130	2763			130	2873	20K	2925

	Stock Number				Stock Number		
Ohms	8 Watts	12 Watts	20 Watts	Ohms	8 Watts	12 Watts	20 Watts
0.5	.....	1700A	1800A	2250	1539	1743	1828
1.0	1500	1701	1802A	2500	1540	1744	1830
1.5	1500B	1704	.....	2750	.....	.....	1831
2.0	1501	1705	1802B	3000	1541	1745	1832
3.0	1502	1706	1802C	3500	1542	1746	1833
4.0	1503	1707	1802D	4000	1543	1747	1834
5.0	1504	1708	1803	4500	1544	1748	1835
7.5	1505	1709	.....	5000	1515	1749	1836
10	1506	1710	1804	6000	1546	1750	1837
12	1507	1711	.....	7000	1547	1751	1838
15	1508	1712	.....	7500	1548	1752	1839
20	1509	1713	.....	8000	1549	1753	1840
25	1510	1714	1805	8500	.....	1754	.....
30	1511	1715	.....	9000	1550	1754A	1840A
35	1512	1716	.....	10K	1551	1755	1841
40	1513	1717	.....	11K	.....	1756	.....
50	1514	1718	1806	12K	.....	1757	.....
75	1515	1719	1807	12.5K	1552	1758	1842
100	1516	1720	1808	13.5K	.....	1759	.....
125	1517	1721	.....	15K	1553	1761	1843
150	1518	1722	1809	16K	.....	1762	.....
200	1519	1723	1810	17.5K	1554	1763	.....
225	1520	1724	.....	18K	.....	1764	.....
250	1521	1725	1811	20K	1555	1765	1844
300	1522	1726	1812	22.5K	1556	1766	.....
350	1523	1727	1813	25K	1557	1767	1845
400	1524	1728	1814	30K	.....	1768	1846
450	1525	1729	.....	35K	.....	1769	1847
500	1526	1730	1815	40K	.....	1770	1848
600	1527	1731	.....	45K	.....	1771	1849
650	.....	.....	1816	50K	.....	1772	1850
700	1528	1732	1817	55K	.....	.....	1851
750	1529	1733	1818	60K	.....	.....	1852
800	1530	1734	1819	65K	.....	.....	1853
900	1531	1735	1820A	70K	.....	.....	1854
1000	1532	1736	1821	75K	.....	.....	1855
1100	1533	1737	.....	80K	.....	.....	1856
1200	1534	1738	1822	85K	.....	.....	1857
1250	1535	1739	1823	90K	.....	.....	1858
1500	1536	1740	1824	95K	.....	.....	1859
1750	1537	1741	1825	100K	.....	.....	1860
2000	1538	1742	1827				

3-Watt Brown Devils

Values, Ohms*	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499	500 Up
1.0–9.1	$1.13	$0.98	$0.81	$0.69	$0.56	$0.52
10–1K	.99	.83	.69	.58	.50	.45
1.1K–4.7K	1.10	.94	.78	.67	.55	.50
5.1K–10K	1.13	.98	.81	.69	.56	.52

5¼-Watt Brown Devils

1.0–9.1	$1.18	$1.00	$0.82	$0.71	$0.58	$0.53
10–1K	1.03	.86	.72	.60	.52	.48
1.1K–4.7K	1.13	.98	.81	.69	.56	.52
5.1K–10K	1.18	1.00	.82	.71	.58	.53
11K–20K	1.30	1.10	.92	.78	.66	.58

8-Watt Brown Devils

1.0–7.5	$1.26	$1.06	$0.86	$0.76	$0.63	$0.55
10–1K	1.10	.94	.78	.67	.55	.50
1.1K–5K	1.18	1.00	.82	.71	.58	.53
6K–10K	1.32	1.12	.93	.79	.67	.59
12.5K–20K	1.63	1.38	1.13	.99	.82	.73
22.5K, 25K	1.71	1.45	1.20	1.03	.85	.77

12-Watt Brown Devils

0.5–7.5	$1.63	$1.38	$1.13	$0.99	$0.82	$0.73
10–1K	1.13	.98	.81	.69	.56	.52
1.1K–5K	1.21	1.04	.84	.72	.60	.54
6K–20K	1.63	1.38	1.13	.99	.82	.73
22.5K–40K	1.71	1.45	1.20	1.03	.85	.77
45K, 50K	1.86	1.59	1.30	1.11	.93	.83

20-Watt Brown Devils

0.5–5.0	$1.86	$1.59	$1.30	$1.11	$0.93	$0.83
10–1K	1.32	1.12	.93	.79	.67	.59
1.2K–5K	1.36	1.16	.96	.82	.69	.60
6K–20K	1.79	1.52	1.26	1.08	.89	.81
25K–40K	1.93	1.64	1.35	1.16	.98	.86
45K–60K	2.25	1.89	1.58	1.34	1.11	1.02
65K–80K	2.66	2.27	1.87	1.60	1.34	1.20
85K–100K	3.07	2.61	2.15	1.84	1.54	1.37

*Restricted to values shown in table of stock numbers. Prices are for each unit ordered, **not** assortments.

INDUSTRIAL AND SERVICE RESISTOR ASSORTMENTS

Little Devil® composition and Type 995 axial-lead molded vitreous enamel resistor kits are supplied with and packed in five-drawer cabinets at no extra cost. Each drawer has eight individually labeled compartments; tops and bottoms of cabinets are dovetailed for secure, easy stacking. Cabinet size, 9" w. x 5¼" d. x 4¾" h.

LITTLE DEVIL® KITS

±10% TOL. INDUSTRIAL ASSORTMENTS

Ohmite No.	Watts	Range, Ohms	No. of Values	No. of Resistors	No. of Cabinets	Net Each
CAB-25	½	2.7–22 megs	80	1000	2	$156.27
CAB-26	½	2.7–22 megs	80	1000	2	164.43
CAB-27	1	2.7–22 megs	80	600	2	157.35

±5% TOL. INDUSTRIAL ASSORTMENTS

CAB-21	⅛	10–1 meg	80	500	2	$221.48
CAB-45	⅛	2.7–22 megs	160	1000	4	421.85
CAB-46	¼	2.7–22 megs	160	1500	4	357.21
CAB-47	½	2.7–22 megs	160	1500	4	399.74
CAB-48	1	2.7–22 megs	160	900	4	336.80

±10% TOL. RADIO/TV SERVICE ASSORTMENTS

CAB-4	¼	47–10 megs	37	150	1	$35.55
CAB-10	½	10–10 megs	40	150	1	35.73
CAB-2	1	10–10 megs	40	125	1	45.85
CAB-3	2	10–10 megs	40	125	1	88.45

TYPE 995 KITS

±5% TOL. INDUSTRIAL ASSORTMENTS

Ohmite No.	Watts	Range, Ohms	No. of Values	No. of Resistors	No. of Cabinets	Net Each
CAB-91	1½	1–3K	40	167	1	$151.23
CAB-93	3¼	1–10K	71	325	2	281.83
CAB-95	5	1–25K	75	355	2	329.94
CAB-99	11	1–50K	40	185	1	192.47

OHMITE® Resistors



VITREOUS ENAMELED RESISTORS

Dividohm® Adjustable Type: Vitreous enameled on ceramic cores with narrow strip of the wire-turns forming a contact surface for the embossed contact of a screwdriver—adjustable lug. A patented percentage of the resistance scale is stamped on the units to make it easy to set the lug at the desired value. **Fixed Resistors:** Lug type, wire-wound on ceramic cores. Wattage ratings are for use in free air.

STOCK VALUE ORDERING NUMBERS

	Dividohm Adjustable Resistor Type 210							Fixed Resistor Type 270				
Ohms	12-Watt	25-Watt	50-Watt	75-Watt	100-Watt	175-Watt	225-Watt	25-Watt	50-Watt	100-Watt	175-Watt	225-Watt
1	1001	0360	0560 A	0769 A	0956 A	1156 A	1356 A	0200J	0400J	0600C	0700C	0900C
2	1002	0360 B	0560 B	0769 B	0956 B	1156 B	1356 B	0200K	0400K	0600D	0700D	0900D
3	1003	0361	0560 C	0769 C	0956 C	1156 C	1356 C	0200L	0400L	0600E	0700E	0900E
4	.....	.....	0560 D	0769 D	0956 D	1156 D	1356 D	0200N	0400N	0600F	0700F	0900F
5	1004	0362	0560	0769	0956	1156	1356	0200A	0400A	0600A	0700A	0900A
7.5	1005	0362 B	.....	.....	.....	.....	.....	.....	.....	0604B	0704B	.....
10	1006	0363	0561	0770	0957	1157	1357	0200B	0400B	0600B	0700B	0900B
15	1007	0364	.....	0771	.....	.....	.....	0200R	.....	.....	.....	.....
20	1008	0364 B	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
25	1009	0365	0562	0772	0958	1158	1358	0200C	0400C	0601	0701	0901
50	1010	0366	0563	0773	0959	1159	1359	0200D	0400D	0602	0702	0902
75	1011	0367	0564	.....	.....	.....	.....	0200E	0400E	0603	0703	0903
100	1012	0368	0565	0774	0960	1160	1360	0200F	0400F	0604	0704	0904
125	.....	.....	.....	.....	.....	.....	.....	.....	.....	0604B	0704B	.....
150	1013	0369	0566	.....	.....	.....	.....	0200G	0400G	0605	0705	0905
200	1014	0370	0567	0774 B	.....	.....	.....	0200H	0400H	.....	.....	.....
250	1015	0371	0568	0775	0960 B	1160 B	1360 B	0201	0401	0606	0706	0906
300	1016	0371 B	0568 B	0775 B	.....	.....	.....	.....	.....	.....	.....	.....
350	1017	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
400	1018	0371 C	0568 C	0775 C	.....	.....	.....	.....	.....	.....	.....	.....
500	1019	0372	0569	0776	0961	1161	1361	0202	0402	0607	0707	0907
600	1020	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
750	1021	0373	0570	0777	.....	.....	.....	0203	0403	0608	0708	0908
800	1022	0374	0571	0777 B	.....	.....	.....	0204	0404	.....	.....	.....
1000	1023	0375	0572	0778	0962	1162	1362	0205	0405	0609	0709	0909
1250	1024	0375 B	0572 B	0778 B	.....	.....	.....	.....	.....	.....	.....	.....
1500	1025	0376	0573	0779	0962 B	1162 B	1362 B	0206	0406	0610	0710	0910
2000	1026	0377	0574	0780	.....	.....	.....	0207	0407	0611	0711	0911
2250	1027	0377 B	0574 B	0780 B	.....	.....	.....	.....	.....	.....	.....	.....
2500	1028	0378	0575	0781	0963	1163	1363	0208	0408	0612	0712	0912
3000	1029	0379	0576	0781 B	.....	.....	.....	0209	0409	0613	0713	0913
3500	1030	0380	0576B	0782	.....	.....	.....	0210	.....	.....	.....	.....
4000	1031	0381	0577	0782 B	.....	.....	.....	0211	0410	.....	.....	.....
4500	1032	0381 B	0577 B	0782 C	.....	.....	.....	.....	.....	.....	.....	.....
5000	1033	0382	0578	0783	0964	1164	1364	0212	0411	0614	0714	0914
6000	1034	0383	0578 B	0783 B	.....	.....	.....	0213	.....	.....	.....	.....
7000	1035	0383 B	0578 C	0783 C	.....	.....	.....	.....	.....	.....	.....	.....
7500	1036	0384	0579	0784	.....	.....	.....	0214	0412	0615	0715	0915
8000	1037	0384 B	0580	0784 B	.....	.....	.....	.....	0413	.....	.....	.....
8500	1038	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
9000	1039	0384 C	0580 B	0784 C	.....	.....	.....	.....	.....	.....	.....	.....
10K	1040	0385	0581	0785	0965	1165	1365	0215	0414	0616	0716	0916
12K	.....	0386	0582	0785 B	.....	.....	.....	0216	0415	.....	.....	.....
15K	.....	0387	0583	0786	0966	1166	1366	0217	0416	0617	0717	0917
20K	.....	0388	0584	0787	0967	1167	1367	0218	0417	0618	0718	0918
25K	.....	0389	0585	0788	0968	1168	1368	0219	0418	0619	0719	0919
30K	.....	.....	0586	0789	0969	1169	1369	0220	.....	0620	0720	0920
35K	.....	.....	.....	0790	.....	.....	.....	0221	0419	.....	.....	.....
40K	.....	.....	0587	0791	0970	1170	1370	0222	.....	0621	0721	0921
45K	.....	.....	.....	0792	.....	.....	.....	.....	.....	.....	.....	.....
50K	.....	.....	0588	0793	0971	1171	1371	0224	0420	0622	0722	0922
60K	.....	.....	0589	0794	.....	.....	.....	0225	.....	0623	0723	0923
70K	.....	.....	.....	.....	.....	.....	.....	0226	.....	.....	.....	.....
75K	.....	.....	.....	.....	0972	1172	1372	.....	0421	0624	0724	0924
80K	.....	.....	0590	0795	.....	.....	.....	0227	.....	.....	.....	.....
100K	.....	.....	0591	0796	0973	1173	1373	0229	0422	0625	0725	0925

Fixed Resistor Type 270, 50 Watt Only

Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.	Ohms	No.
125K	0423	150K	0424	175K	0425	200K	0426	250K	0428

FIXED 12-WATT NO. 270-12*

Limited space prevents full listing. Write for details, stock values.

Values, Ohms	Net Each, Lots of					
	1-9	10-49	50-99	100-249	250-499	500 Up
.51–6.8	$1.56	$1.33	$1.09	$0.94	$0.77	$0.71
10–1K	1.09	.93	.76	.66	.54	.49
1.2K–4.7K	1.16	.98	.80	.70	.58	.51
5.6K–10K	1.31	1.10	.92	.77	.66	.58
12K–18K	1.56	1.33	1.09	.94	.77	.71
22K–39K	1.63	1.38	1.14	.97	.81	.73
47K, 51K	1.78	1.51	1.24	1.07	.89	.79

DIVIDOHM® ADJUSTABLE 12-WATT NO. 210-12*

1–7.5	$2.54	$2.16	$1.78	$1.52	$1.27	$1.16
10-1K	2.20	1.87	1.56	1.33	1.12	.98
1.25K–5K	2.28	1.95	1.59	1.37	1.16	1.03
6K–10K	2.54	2.16	1.78	1.52	1.27	1.16

FIXED 25-WATT NO. 270-25

Core, 2″ x ⅜″; with No. 9 brackets. Mounting centers 2¾″.

1–4	$1.80	$1.52	$1.26	$1.08	$0.90	$0.80
5–75	1.49	1.26	1.04	.89	.75	.67
100–1K	1.40	1.20	.98	.85	.71	.64
1.5K–5K	1.49	1.26	1.04	.89	.75	.67
6K–10K	1.85	1.56	1.30	1.11	.92	.83
12K–20K	1.91	1.63	1.34	1.16	.97	.86
25K–40K	2.04	1.72	1.42	1.22	1.01	.91
50K, 60K	2.46	2.09	1.72	1.47	1.23	1.11
70K, 80K	2.85	2.43	1.99	1.71	1.43	1.29
100K	3.25	2.76	2.28	1.95	1.63	1.39

DIVIDOHM ADJUSTABLE 25-WATT NO. 210-25

Core, 2″ x ⅜″; with No. 9 brackets. Mounting centers, 2¾″.

1–1K	$2.43	$2.07	$1.70	$1.44	$1.21	$1.10
1.25K–5K	2.54	2.16	1.78	1.52	1.27	1.16
6K–10K	2.64	2.25	1.84	1.58	1.33	1.19
12K–20K	2.79	2.39	1.96	1.67	1.40	1.26
25K	3.01	2.56	2.11	1.81	1.51	1.35

*Core, 1¼″ x ⅝″; with No. 5 brackets; mtg. centers, 2⅜″.

FIXED 50-WATT NO. 270-50

Core, 4″ x ⅝″; with No. 9 brackets. Mounting centers, 4¾″.

Values, Ohms	Net Each, Lots of			
	1-9	10-49	50-99	100 Up
1	$2.89	$2.45	$2.02	$1.74
2–5000	2.15	1.83	1.51	1.29
7500–10K	2.31	1.95	1.62	1.38
12K–20K	2.56	2.17	1.79	1.54
25K and 35K	2.89	2.45	2.02	1.74
50K	3.30	2.81	2.32	1.98
75K	3.72	3.17	2.61	2.23
100K	4.02	3.41	2.82	2.41
125K	4.86	4.14	3.40	2.92
150K	5.12	4.36	3.60	3.07
175K	5.36	4.57	3.74	3.21
200K	5.58	4.75	3.91	3.36
250K	6.09	5.17	4.28	3.66

ADJUSTABLE 50-WATT NO. 210-50

Core, brkt. and mtg. ctrs., same as above.

1	$3.91	$3.32	$2.74	$2.34
2–1000	3.10	2.64	2.17	1.86
1250–5000	3.19	2.72	2.21	1.92
6000–10K	3.21	2.73	2.26	1.93
12K–20K	3.34	2.85	2.34	2.01
25K–40K	3.79	3.22	2.65	2.28
50K and 60K	4.07	3.47	2.86	2.44
80K	4.57	3.91	3.21	2.75
100K	4.82	4.10	3.37	2.87

ADJUSTABLE 75-WATT NO. 210-75

Core, 6″ x ⅝″; with No. 9 brackets. Mounting centers, 6¾″.

1 and 2	$4.90	$4.17	$3.44	$2.95
3–5000	3.97	3.39	2.77	2.39
6000–10K	4.14	3.50	2.90	2.49
12K–20K	4.32	3.69	3.01	2.60
25K–40K	4.66	3.97	3.28	2.82
45K–60K	5.18	4.41	3.64	3.10
80K	5.71	4.85	3.98	3.42
100K	5.97	5.07	4.18	3.59

FIXED 100-WATT NO. 270-100

Core, 6½″ x ¾″; with No. 12 brackets. Mounting centers, 7⅜″.

1 and 2	$4.15	$3.52	$2.90	$2.49
3–10	3.59	3.04	2.51	2.15
25 and 50	3.41	2.90	2.40	2.05
75–250	3.30	2.82	2.31	1.99
500–1000	3.55	3.01	2.49	2.13
1500–5000	3.76	3.19	2.62	2.24
7500 and 10K	3.96	3.38	2.77	2.39
15K–25K	4.57	3.87	3.19	2.73
30K–50K	5.28	4.49	3.70	3.17
60K–75K	5.40	4.60	3.78	3.25
100K	5.60	4.77	3.92	3.38

ADJUSTABLE 100-WATT NO. 210-100

Core, brkt. and mtg. ctrs., same as above.

1 and 2	$5.85	$4.98	$4.10	$3.52
3–50	5.49	4.68	3.83	3.30
100–250	4.46	3.79	3.11	2.68
500–1000	4.52	3.83	3.17	2.73
1500–5000	4.57	3.89	3.21	2.76
10K	4.87	4.13	3.39	2.91
15K–25K	5.10	4.32	3.57	3.06
30K–50K	5.53	4.71	3.86	3.32
75K	6.02	5.13	4.22	3.62
100K	6.16	5.24	4.31	3.71

ADJUSTABLE TYPE 210*

Value, Ohms	175 Watt, Net Ea., Lots of				225 Watt, Net Ea., Lots of			
	1-9	10-49	50-99	100 Up	1-9	10-49	50-99	100 Up
1–2	$9.66	$8.22	$6.77	$5.80	$12.27	$10.43	$8.58	$7.36
3–10	9.19	7.81	6.43	5.52	11.21	9.52	7.83	6.73
25–50	8.53	7.25	5.97	5.13	9.78	8.31	6.86	5.86
100–250	7.40	6.31	5.19	4.45	8.36	7.12	5.85	5.01
500–1K	6.88	5.84	4.80	4.13	8.01	6.81	5.61	4.79
1.5K–5K	6.63	5.64	4.64	3.99	7.59	6.44	5.32	4.54
10K	6.53	5.56	4.56	3.92	7.70	6.55	5.39	4.62
15K, 25K	7.00	5.96	4.90	4.21	7.88	6.71	5.52	4.73
30K–50K	7.22	6.13	5.04	4.32	8.01	6.81	5.61	4.79
75K	7.29	6.20	5.11	4.39	8.43	7.16	5.90	5.04
100K	7.82	6.64	5.48	4.70	8.96	7.62	6.27	5.37

FIXED TYPE 270*

1–2	$6.94	$5.91	$4.86	$4.18	$8.58	$7.29	$6.01	$5.14
3–10	5.79	4.92	4.06	3.47	6.52	5.54	4.58	3.92
25–50	5.40	4.59	3.77	3.23	6.40	5.45	4.48	3.85
75–250	5.15	4.38	3.63	3.09	6.33	5.39	4.42	3.82
500–1K	5.09	4.33	3.55	3.05	6.20	5.27	4.35	3.73
1.5K–5K	5.03	4.28	3.52	3.01	6.02	5.12	4.21	3.60
7.5K–10K	5.23	4.43	3.66	3.14	5.76	4.90	4.02	3.45
15K, 25K	5.47	4.64	3.83	3.28	6.06	5.16	4.25	3.65
30K–50K	5.71	4.86	3.99	3.42	6.52	5.54	4.58	3.92
60K, 75K	5.84	4.97	4.09	3.50	7.05	6.00	4.93	4.22
100K	5.96	5.07	4.18	3.56	7.36	6.25	5.15	4.41

*175 Watt: Core, 8½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 9¼″.
225 Watt: Core, 10½″ x 1⅛″; No. 18 brkts; mtg. ctrs., 11⅛″.

OHMITE Series 995 Resistors

SERIES 995 MOLDED AXIAL LEAD VITREOUS ENAMELED RESISTORS



Molded wire-wound vitreous enamel resistors with 1000 VAC insulation rating meet requirements of MIL-R-26 for "insulated" resistors. Also available to MIL-R-26, Styles RW67, RW68 and RW69; resistance range and prices on request. Withstand very high temperatures, high humidity and immersion in salt solution; high overload capability. Can be mounted on component clips. **Tolerance:** ±5%. **Size:** 1.5-watt, 0.422″ lg. x 0.125″ dia.; 2¼-watt, 0.375″ lg. x 0.188″ dia.; 3¼-watt, 0.547″ lg. x 0.203″ dia.; 5-watt, 0.938″ lg. x 0.203″ dia.; 11-watt, 1.781″ lg. x 0.312″ dia. Wire leads 1½″ lg., #20 AWG except 1-watt, #24 AWG.

STYLE 995-1A 1.5-WATT AND STYLE 995-2A 2¼-WATT

Ohms	Stock Number 1.5-Watt	Stock Number 2¼-Watt	Ohms	Stock Number 1.5-Watt	Stock Number 2¼-Watt
1.0	4030	3860	75	4087	3918
1.1	4031	3861	82	4089	3920
1.2	4032	3862	91	4091	3922
1.3	4033	3863	100	4092	3923
1.5	4034	3864	110	4093	3924
1.6	4035	3865	120	4094	3925
1.8	4036	3866	130	4095	3926
2.0	4037	3867	150	4096	3927
2.2	4038	3868	160	4097	3928
2.4	4039	3869	180	4098	3929
2.7	4041	3871	200	4099	3930
3.0	4042	3872	220	4100	3931
3.3	4043	3873	240	4101	3932
3.6	4044	3874	250	4102	3933
3.9	4045	3875	270	4103	3934
4.0	4046	3876	300	4104	3935
4.3	4047	3877	330	4105	3936
4.7	4048	3878	350	4105A	3937
5.0	4049	3879	360	4106	3938
5.1	4050	3880	390	4107	3939
5.6	4051	3881	400	4108	3940
6.2	4053	3883	430	4109	3941
6.8	4054	3884	450	4109A	3942
7.5	4056	3886	470	4110	3943
8.2	4058	3888	500	4111	3944
9.1	4060	3890	510	4112	3945
10	4061	3891	560	4113	3946
11	4062	3892	600	4114	3947
12	4063	3893	620	4115	3948
13	4064	3894	680	4116	3949
15	4065	3895	700	4117	3950
16	4066	3896	750	4118	3951
18	4067	3897	800	4119	3952
20	4068	3898	820	4120	3953
22	4069	3899	900	4121	3954
24	4070	3900	910	4122	3955
25	4071	3901	1000	4123	3956
27	4072	3902	1100	4124	3957
30	4073	3903	1200	4125	3958
33	4074	3904	1300	4126	3959
35	4074A	3905	1400	4126A	3960
36	4075	3906	1500	4127	3961
39	4076	3907	1600	4128	3962
40	4077	3908	1800	4129	3963
43	4078	3909	2000	4130	3964
47	4079	3910	2200	4131	3965
50	4080	3911	2400	4132	3966
51	4081	3912	2500	4133	3967
56	4082	3913	2700	4134	3968
62	4084	3915	3000	4135	3969
68	4085	3916			

STYLE 995-10A 11-WATT

Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.	Ohms	Stock No.
1.0	4730	27	4772	470	4810	5600	4844
1.1	4731	30	4773	500	4811	6000	4845
1.2	4732	33	4774	510	4812	6200	4846
1.3	4733	35	4774A	560	4813	6800	4847
1.5	4734	36	4775	600	4814	7000	4848
1.6	4735	39	4776	620	4815	7500	4849
1.8	4736	40	4777	680	4816	8000	4850
2.0	4737	43	4778	700	4817	8200	4851
2.2	4738	47	4779	750	4818	9000	4852
2.4	4739	50	4780	800	4819	9100	4853
2.7	4741	51	4781	820	4820	10,000	4854
3.0	4742	56	4782	900	4821	11,000	4855
3.3	4743	62	4784	910	4822	12,000	4856
3.6	4744	68	4785	1000	4823	13,000	4857
3.9	4745	75	4787	1100	4824	14,000	4857B
4.0	4746	82	4789	1200	4825	15,000	4858
4.3	4747	91	4791	1300	4826	16,000	4859A
4.7	4748	100	4792	1400	4826A	17,000	4859C
5.0	4749	110	4793	1500	4827	18,000	4860
5.1	4750	120	4794	1600	4828	20,000	4861
5.6	4751	130	4795	1800	4829	22,000	4862
6.2	4753	150	4796	2000	4830	24,000	4863
6.8	4754	160	4797	2200	4831	25,000	4864
7.5	4756	180	4798	2400	4832	27,000	4865
8.2	4758	200	4799	2500	4833	30,000	4866
9.1	4760	220	4800	2700	4834	33,000	4867
10	4761	240	4801	3000	4835	35,000	4867A
11	4762	250	4802	3300	4836	36,000	4868
12	4763	270	4803	3500	4836A	39,000	4869
13	4764	300	4804	3600	4837	40,000	4870
15	4765	330	4805	3900	4838	43,000	4871
16	4766	350	4805A	4000	4839	45,000	4871A
18	4767	360	4806	4300	4840	47,000	4872
20	4768	390	4807	4500	4840A	50,000	4873
22	4769	400	4808	4700	4841	51,000	4874
24	4770	430	4809	5000	4842		
25	4771	450	4809A	5100	4843		

STYLE 995-3A 3¼-WATT AND STYLE 995-5B 5-WATT

Ohms	Stock Number 3¼-Watt	Stock Number 5-Watt	Ohms	Stock Number 3¼-Watt	Stock Number 5-Watt
1.0	4330	4530	330	4405	4605
1.1	4331	4531	350	4405A	4605A
1.2	4332	4532	360	4406	4606
1.3	4333	4533	390	4407	4607
1.5	4334	4534	400	4408	4608
1.6	4335	4535	430	4409	4609
1.8	4336	4536	450	4409A	4609A
2.0	4337	4537	470	4410	4610
2.2	4338	4538	500	4411	4611
2.4	4339	4539	510	4412	4612
2.7	4341	4541	560	4413	4613
3.0	4342	4542	600	4414	4614
3.3	4343	4543	620	4415	4615
3.6	4344	4544	680	4416	4616
3.9	4345	4545	700	4417	4617
4.0	4346	4546	750	4418	4618
4.3	4347	4547	800	4419	4619
4.7	4348	4548	820	4420	4620
5.0	4349	4549	900	4421	4621
5.1	4350	4550	910	4422	4622
5.6	4351	4551	1000	4423	4623
6.2	4353	4553	1100	4424	4624
6.8	4354	4554	1200	4425	4625
7.5	4356	4556	1300	4426	4626
8.2	4358	4558	1400	4426A	4626A
9.1	4360	4560	1500	4427	4627
10	4361	4561	1600	4428	4628
11	4362	4562	1800	4429	4629
12	4363	4563	2000	4430	4630
13	4364	4564	2200	4431	4631
15	4365	4565	2400	4432	4632
16	4366	4566	2500	4433	4633
18	4367	4567	2700	4434	4634
20	4368	4568	3000	4435	4635
22	4369	4569	3300	4436	4636
24	4370	4570	3500	4436A	4636A
25	4371	4571	3600	4437	4637
27	4372	4572	3900	4438	4638
30	4373	4573	4000	4439	4639
33	4374	4574	4300	4440	4640
35	4374A	4574A	4500	4440A	4640A
36	4375	4575	4700	4441	4641
39	4376	4576	5000	4442	4642
40	4377	4577	5100	4443	4643
43	4378	4578	5600	4444	4644
47	4379	4579	6000	4445	4645
50	4380	4580	6200	4446	4646
51	4381	4581	6800	4447	4647
56	4382	4582	7000	4448	4648
62	4384	4584	7500	4449	4649
68	4385	4585	8000	4450	4650
75	4387	4587	8200	4451	4651
82	4389	4589	9000	4452	4652
91	4391	4591	9100	4453	4653
100	4392	4592	10,000	4454	4654
110	4393	4593	11,000	.....	4655
120	4394	4594	12,000	.....	4656
130	4395	4595	13,000	.....	4657
150	4396	4596	14,000	.....	4657A
160	4397	4597	15,000	.....	4658
180	4398	4598	16,000	.....	4659
200	4399	4599	17,000	.....	4659B
220	4400	4600	18,000	.....	4660
240	4401	4601	20,000	.....	4661
250	4402	4602	22,000	.....	4662
270	4403	4603	24,000	.....	4663
300	4404	4604	25,000	.....	4664

PRICING

Style 995-1A 1.5-Watt

Values, Ohms*	Net Each, Lots of 1-9	10-49	50-99	100-249	250-499	500 Up
1.0–9.1	$1.19	$1.01	$0.84	$0.71	$0.61	$0.53
10–1K	1.06	.90	.73	.64	.53	.47
1.1K–3K	1.09	.93	.76	.66	.55	.48

Style 995-2A 2¼-Watt

1.0–9.1	$1.11	$0.95	$0.78	$0.67	$0.57	$0.49
10–1K	.99	.83	.69	.60	.48	.44
1.1K–3K	1.04	.88	.72	.63	.52	.46

Style 995-3A 3¼-Watt

1.0–9.1	$1.01	$0.85	$0.70	$0.61	$0.50	$0.45
10–1K	.89	.76	.63	.53	.44	.40
1.1K–5K	.95	.81	.67	.58	.47	.43
5.1K–10K	.98	.83	.68	.59	.48	.44

Style 995-5B 5-Watt

1.0–9.1	$1.08	$0.92	$0.76	$0.65	$0.55	$0.48
10–1K	.95	.81	.67	.58	.47	.43
1.1K–5K	.98	.83	.68	.59	.48	.44
5.1K–10K	1.08	.92	.76	.65	.55	.48
11K–20K	1.16	1.00	.82	.70	.59	.53
22K–25K	1.36	1.15	.95	.82	.68	.62

Style 995-10A 11-Watt

1.0–9.1	$1.36	$1.15	$0.95	$0.82	$0.68	$0.61
10–1K	1.23	1.05	.87	.73	.62	.55
1.1K–5K	1.30	1.10	.91	.77	.65	.58
5.1K–10K	1.43	1.22	1.00	.87	.71	.65
11K–20K	1.57	1.33	1.10	.94	.78	.70
22K–40K	1.65	1.39	1.15	.99	.82	.73
43K–51K	1.81	1.53	1.27	1.09	.91	.81

*Restricted to those values shown in the table of stock numbers.

OHMITE® Trimmers & Controls

HOT MOLDED TRIMMERS



TYPE AFR SINGLE-TURN TRIMMERS

Built to withstand severe environmental conditions. Includes a hot molded resistor track bridged by a single moving molded contact brush. Enclosure is non-magnetic, corrosion resistant, and splash-proof. Resistance change is nominally linear with shaft rotation. **Tolerance:** ±20%. **Temperature Range:** −55° C to +120° C. **Dielectric Strength:** 750 VAC, rms at sea level. **Torque:** 0.25 to 3.0 inch-oz. **Adjustment:** Single turn, 295 ±5 degrees. **Power Rating:** ¼ watt at 70° C ambient temperature. Derate power linearly to zero at +120° C ambient up to .5 megohm, additional derating required over .1 megohm at higher than 70° C. **Working Voltage:** 350 VAC, rms max. **Leads:** Designed for direct mounting on printed wiring boards at .1″ spacing. **Size:** ½″ dia. x 1⅞₂″ l.; leads ½″ long.

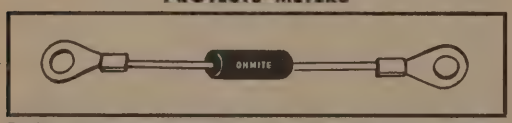
Ohmite Number	Ohms ±20%	Net Each, Lots of 1-9	10-24	25 Up
AFR-101M	100	$7.93	$6.75	$5.55
AFR-251M	250	7.93	6.75	5.55
AFR-501M	500	7.93	6.75	5.55
AFR-102M	1,000	7.93	6.75	5.55
AFR-252M	2,500	7.93	6.75	5.55
AFR-502M	5,000	7.93	6.75	5.55
AFR-103M	10,000	7.93	6.75	5.55
AFR-253M	25,000	7.93	6.75	5.55
AFR-503M	50,000	7.93	6.75	5.55
AFR-104M	.1 meg	7.93	6.75	5.55
AFR-254M	.25 meg	7.93	6.75	5.55
AFR-504M	.5 meg	7.93	6.75	5.55
AFR-105M	1.0 meg	7.93	6.75	5.55
AFR-255M	2.5 megs	7.93	6.75	5.55
AFR-505M	5.0 megs	7.93	6.75	5.55

TYPE BNP 15-TURN TRIMMERS

Continuously adjustable variable resistors, designed for use on PC boards. Three terminals to use as rheostats or potentiometers with equally satisfactory results. Stepless, relatively non-inductive, splash-proof, dust-tight and can be mounted by its own rugged terminals. **Tolerance:** ±10%. **Temperature Range:** −55° C to +125° C. **Dielectric Strength:** 900 VAC, rms max. at sea level. **Insulation Resistance:** 100 megohms min. **Power Rating:** ½ watt at 85° C ambient temperature, derate linearly to zero at 100° C. **Working Voltage:** 350 VAC, rms max. at sea level. **Leads:** Pin type terminals, spaced in accordance with .1″ printed wiring board grid system. **Size:** ¾″ w. x ¼″ d. x ⅜₁₆″ h.; leads 1¾₄″ long.

Number	Ohms	Net Each, Lots of 1-24	25-48	49-96	97 Up
BNP-100K	10	$4.84	$4.13	$3.40	$2.92
BNP-200K	20	4.84	4.13	3.40	2.92
BNP-500K	50	4.84	4.13	3.40	2.92
BNP-101K	100	4.84	4.13	3.40	2.92
BNP-201K	200	4.84	4.13	3.40	2.92
BNP-501K	500	4.84	4.13	3.40	2.92
BNP-102K	1,000	4.84	4.13	3.40	2.92
BNP-202K	2,000	4.84	4.13	3.40	2.92
BNP-502K	5,000	4.84	4.13	3.40	2.92
BNP-103K	10,000	4.84	4.13	3.40	2.92
BNP-203K	20,000	4.84	4.13	3.40	2.92
BNP-253K	25,000	4.84	4.13	3.40	2.92
BNP-503K	50,000	4.84	4.13	3.40	2.92
BNP-104K	100,000	4.84	4.13	3.40	2.92
BNP-204K	200,000	4.84	4.13	3.40	2.92
BNP-254K	250,000	4.84	4.13	3.40	2.92
BNP-504K	500,000	4.84	4.13	3.40	2.92
BNP-105K	1,000,000	4.84	4.13	3.40	2.92

DIODE "METERSAVER" PROTECTS METERS



Designed to protect sensitive (high internal resistance) meters against burnout due to overload even where potential is reversed. Introduces negligible error. Consists of two silicon diodes in compact case with leads and lugs. Connects across meter terminals without regard for polarity. Shunts excess current around meters. Allows use of less expensive meter fuses. Can be used with meters of low internal resistance but use of series resistor is then advised.

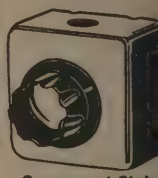
Ohmite No. OMC7111 "Metersaver"—Net Each.....**$5.34**

OHMITROL® SOLID STATE POWER AND MOTOR SPEED CONTROLS

- AC AND DC VERSIONS
- SMALLEST 1 AND 2 kW CONTROLS AVAILABLE
- INTEGRAL TRIMMER ADJUSTS RANGE



Portable Style


Component Style

Simple screwdriver adjustment adapts control to a wide varie of applications. Internal trimmer permits setting starting poi anywhere within voltage range (can be preset at factory for sm added cost). Infinitely smooth control adjusts from starting poi to full line voltage; integral on-off switch at counter-clockw end of control knob. Two styles are available: Component sty is for panel mounting in equipment; self-contained portable sty comes with grounded line cord and standard grounded A receptacle. Choice of AC output or two kinds of DC outpu rectified DC at approximately full line voltage; and, simu taneously, variable or controlled DC. **120-Volt Model Specific tions:** Load rating, 1 kW, 8.3 amps AC; 3.5 amps DC motorlo or 6.0 amps DC resistive. Input, 120 VAC, 60 Hz (50 Hz availat on special order). Trimmer voltage range, 0–70 volts. **240-Vo Model Specifications:** Load rating, 2 kW, 8.3 amps AC; 3.5 am DC motorload and 6.0 amps DC resistive. Input, 240 VAC, 60 H (50 Hz on special order). Trimmer voltage range, 0–200 vol **Applications:** AC types for shaded pole motors, permanent sp capacitor motors, universal motors, resistive and infra-red heate DC types for shunt-wound, series-wound and PM motors, pl magnetic clutches and brakes. **Size:** Portable Style, 3¾″ w. 1²⅞₂″ d. x 4¼″ h., excluding knob and connections; knob supplie Component Style, 1¾″ sq. x 1½″ d., excluding knob and termina two-way terminals accept ¼″ Faston connectors or solderin ⅜″-32 bushing with non-turn projection on ½″ centers with ⅝ lg., ¼″ dia. shaft; knob not supplied.

AC OUTPUT MODELS

Ohmite Number	VAC, 60 Hz Input	Output	Instrument Style	Net Each, Lots of 1-9	10-24	25 U
PCA-1000	120	0–120	Component	$39.13	$35.24	$31.3
PCA-1020	240	0–240	Component	49.25	44.36	39.4
PCA-1050‡	120	0–120	Component	53.92	48.51	43.1
PCA-1100♯	120	0–120	Component	39.13	35.24	31.2
PCA-1120♯	240	0–240	Component	49.24	44.32	39.3

DC OUTPUT MODELS

Ohmite Number	VAC 60 Hz Input	Pulsating DC Output	Instrument Style	Net Each, Lots of 1-9	10-24	25 U
PCD-1003	120	0–120*	Component	$76.22	$68.59	$60.9
PCD-1020	240	0–240†	Component	87.10	78.39	69.6
PCD-1100♯	120	0–120*	Component	79.84	71.85	63.8
PCD-1120♯	240	0–240†	Component	87.10	78.39	69.6

*Plus full 120 VDC. †Plus full 240 VDC. ‡Rated 15 amps A ♯All voltages at 50 Hz frequency.

WE GUARANTEE FAST SERVICE FROM OUR COMPLETE AND UP-TO-DATE STOCKS. SEE MANUFACTURERS INDEX AT THE BACK OF THIS CATALOG FOR OTHER OHMITE PRODUCT LISTINGS. ASK ABOUT ANY NEW OR UNLISTED ITEMS ALSO AVAILABLE FOR IMMEDIATE DELIVERY.

OHMITE® Rheostats, Couplings

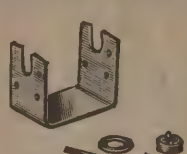
VITREOUS ENAMELED RHEOSTATS, TANDEM COUPLING KITS



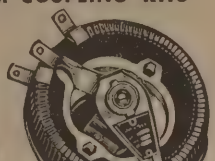
"E"



"E" Enclosed



6532 Kit



"N"

Wire-wound vitreous enameled rheostats with solid ceramic core. Pivoted, universal action. Metal-graphite contact brushes, varied to fit current and resistance. Models E, H, J, K, L, N and P are listed under UL Reexamination Service. Current ratings listed are in free air; when enclosed, currents should be reduced up to 50% depending on ventilation.

Model "E" Rheostats, 12½-Watt—Rating on metal panel. Size, ⅞" dia. x 1 1/16" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0101	1	$8.69	$7.39	$5.83	$4.77	$3.67
0102	2	8.69	7.39	5.83	4.77	3.67
0102A	2.5	8.69	7.39	5.83	4.77	3.67
0103	3	8.69	7.39	5.83	4.77	3.67
0103A	5	8.69	7.39	5.83	4.77	3.67
0104	6	8.69	7.39	5.83	4.77	3.67
0105	8	8.69	7.39	5.83	4.77	3.67
0106	10	8.69	7.39	5.83	4.77	3.67
0107	15	8.44	7.18	5.66	4.64	3.56
0108	25	8.44	7.18	5.66	4.64	3.56
0109	35	8.44	7.18	5.66	4.64	3.56
0110	50	8.44	7.18	5.66	4.64	3.56
0111	75	8.44	7.18	5.66	4.64	3.56
0112	100	8.44	7.18	5.66	4.64	3.56
0113	125	8.44	7.18	5.66	4.64	3.56
0113A	150	8.44	7.18	5.66	4.64	3.56
0114	175	8.44	7.18	5.66	4.64	3.56
0114A	200	8.44	7.18	5.66	4.64	3.56
0115	250	8.44	7.18	5.66	4.64	3.56
0116	350	8.44	7.18	5.66	4.64	3.56
0117	500	8.44	7.18	5.66	4.64	3.56
0118	750	8.44	7.18	5.66	4.64	3.56
0119	1000	8.69	7.39	5.83	4.77	3.67
0120	1500	8.69	7.39	5.83	4.77	3.67
0121	2500	8.69	7.39	5.83	4.77	3.67
0122*	3500	10.48	8.91	7.02	5.76	4.41
0123*	5000	10.48	8.91	7.02	5.76	4.41
4190*	7500	10.79	9.17	7.23	5.93	4.53
4191*	10K	10.79	9.17	7.23	5.93	4.53
4192*	12.5K	11.73	9.98	7.87	6.46	4.93
4193*	15K	11.73	9.98	7.87	6.46	4.93

Model "E" Enclosed Rheostats—Same, but in corrosion-resistant dust-proof case. Use prefix **W** (W0101). Mt. on ⅛" panels.

Range, Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
1-3	$17.87	$15.30	$12.06	$ 9.90
5-15	17.60	14.96	11.81	9.68
25-500	16.59	14.10	11.11	9.14
750-2.5K	17.60	14.96	11.81	9.68
3.5K*, 5K*	18.13	15.40	12.13	9.95
7.5K*, 10K*	18.63	15.83	12.48	10.24
12.5K*, 15K*	20.15	17.13	13.51	11.09

Model "H" Rheostats—25-Watt—Size, 1 9/16" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0140	1	$9.14	$7.78	$6.12	$5.01	$3.85
0141	2	9.14	7.78	6.12	5.01	3.85
0142	3	9.14	7.78	6.12	5.01	3.85
0143	6	9.14	7.78	6.12	5.01	3.85
0144	8	9.14	7.78	6.12	5.01	3.85
0145	10	8.86	7.55	5.94	4.89	3.73
0146	15	8.86	7.55	5.94	4.89	3.73
0147	25	8.86	7.55	5.94	4.89	3.73
0148	35	8.86	7.55	5.94	4.89	3.73
0149	50	8.86	7.55	5.94	4.89	3.73
0150	75	8.86	7.55	5.94	4.89	3.73
0151	100	8.86	7.55	5.94	4.89	3.73
0152	125	8.86	7.55	5.94	4.89	3.73
0153	175	8.86	7.55	5.95	4.89	3.73
0154	250	8.86	7.55	5.94	4.89	3.73
0155	350	8.86	7.55	5.94	4.89	3.73
0156	500	8.86	7.55	5.94	4.89	3.73
0157	750	8.86	7.55	5.94	4.89	3.73
0158	1000	9.14	7.78	6.12	5.01	3.85
0159	1500	9.14	7.78	6.12	5.01	3.85
0160	2500	9.14	7.78	6.12	5.01	3.85
0161	3500	10.29	8.74	6.89	5.66	4.31
0162	5000	10.29	8.74	6.89	5.66	4.31
4200*	7500	10.60	9.02	7.11	5.84	4.46
4201*	10K	10.60	9.02	7.11	5.84	4.46
4202*	15K	11.32	9.63	7.58	6.25	4.76
4203*	20K	12.05	10.22	8.08	6.61	5.06
4204*	25K	13.18	11.21	8.84	7.27	5.54

Model "J" Rheostats—50-Watt—Size, 2 5/16" dia. x 1⅜" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25-49	50Up
0308	0.5	$10.72	$9.13	$7.18	$5.89	$4.50
0309	1	10.72	9.13	7.18	5.89	4.50
0310	2	10.72	9.13	7.18	5.89	4.50
0311	4	10.72	9.13	7.18	5.89	4.50
0312	6	10.72	9.13	7.18	5.89	4.50
0313	8	9.57	8.11	6.39	5.25	4.01
0314	12	9.57	8.11	6.39	5.25	4.01
0315	16	9.57	8.11	6.39	5.25	4.01
0316	22	9.57	8.11	6.39	5.25	4.01
0317	35	9.57	8.11	6.39	5.25	4.01
0318	50	9.57	8.11	6.39	5.25	4.01
0319	80	9.57	8.11	6.39	5.25	4.01
0320	125	9.57	8.11	6.39	5.25	4.01
0321	150	9.57	8.11	6.39	5.25	4.01
0322	225	9.57	8.11	6.39	5.25	4.01
0323	300	9.57	8.11	6.39	5.25	4.01
0324	500	9.57	8.11	6.39	5.25	4.01
0325	800	10.13	8.62	6.79	5.57	4.26
0326	1000	10.13	8.62	6.79	5.57	4.26
0327	1600	10.13	8.62	6.79	5.57	4.26
0328	2500	10.13	8.62	6.79	5.57	4.26
0329	3500	10.72	9.13	7.18	5.89	4.50
0330	5000	10.72	9.13	7.18	5.89	4.50
0331	8K	10.72	9.13	7.18	5.89	4.50
0332	10K	10.72	9.13	7.18	5.89	4.50
4210*	15K	12.83	10.90	8.60	7.07	5.40
4211*	20K	13.47	11.44	9.04	7.41	5.67
4212*	25K	14.90	12.67	10.00	8.20	6.27
4213*	30K	16.48	14.02	11.05	9.07	6.90
4214*	40K	18.93	16.08	12.67	10.41	7.93
4215*	50K	21.06	17.92	14.12	11.61	8.86

Model "G" Rheostats—75-Watt—Size, 2¾" dia. x 1¾" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10 Up
1100	0.5	$19.39	$16.48	$12.99
1101	1	19.39	16.48	12.99
1102	2	17.08	14.53	11.45
1103	3	17.08	14.53	11.45
1104	5	17.08	14.53	11.45
1105	7.5	17.08	14.53	11.45
1106	10	17.08	14.53	11.45
1107	16	13.87	11.78	9.29
1108	25	13.87	11.78	9.29
1109	50	13.87	11.78	9.29
1110	75	13.87	11.78	9.29
1111	100	13.87	11.78	9.29
1112	200	13.87	11.78	9.29
1113	300	13.87	11.78	9.29
1114	400	13.87	11.78	9.29
1115	500	13.87	11.78	9.29
1116	750	13.87	11.78	9.29
1117	1000	13.87	11.78	9.29
1118	1500	16.38	13.93	10.98
1119	2000	16.38	13.93	10.98
1120	2500	16.38	13.93	10.98
1121	5000	17.48	14.85	11.72
1122	7500	19.12	16.26	12.81

Model "K" Rheostats—100-Watt—Size, 3⅛" dia. x 1¾" d. behind panel.

		1-4	5-9	10-24	25 Up
0440	0.5	$19.96	$16.94	$13.35	$10.96
0441	1	19.96	16.94	13.35	10.96
0442	2	18.58	15.79	12.44	10.20
0443	3	18.58	15.79	12.44	10.20
0444	5	18.58	15.79	12.44	10.20
0445	7.5	18.58	15.79	12.44	10.20
0446	10	18.58	15.79	12.44	10.20
0447	16	15.57	13.23	10.42	8.56
0448	25	15.57	13.23	10.42	8.56
0449	50	15.57	13.23	10.42	8.56
0450	75	15.57	13.23	10.42	8.56
0451	100	15.57	13.23	10.42	8.56
0452	200	15.57	13.23	10.42	8.56
0453	300	15.57	13.23	10.42	8.56
0454	400	15.57	13.23	10.42	8.56
0455	500	15.57	13.23	10.42	8.56
0456	750	18.58	15.79	12.44	10.20
0457	1000	18.58	15.79	12.44	10.20
0458	1500	18.58	15.79	12.44	10.20
0459	2000	18.58	15.79	12.44	10.20
0460	2500	18.58	15.79	12.44	10.20
0461	5000	19.39	16.48	12.99	10.66
0462	7500	20.62	17.53	13.84	11.36
0463	10K	22.06	18.77	14.79	12.12

Model "L" Rheostats—150-Watt—Size 4" dia. x 2" d. behind panel.

No.	Res., Ohms	Net Each, Lots of 1-4	5-9	10-24	25 Up
0524	0.5	$22.11	$18.80	$14.82	$12.17
0525	1	22.11	18.80	14.82	12.17
0526	2	22.11	18.80	14.82	12.17
0527	3	19.33	16.45	12.96	10.65
0528	5	19.33	16.45	12.96	10.65
0529	7.5	19.33	16.45	12.96	10.65
0530	10	19.33	16.45	12.96	10.65
0531	15	19.33	16.45	12.96	10.65
0532	25	17.94	15.28	12.03	9.89
0533	35	17.94	15.28	12.03	9.89
0534	50	17.94	15.28	12.03	9.89
0535	75	17.94	15.28	12.03	9.89
0536	100	17.94	15.28	12.03	9.89
0537	150	17.94	15.28	12.03	9.89
0538	200	17.94	15.28	12.03	9.89
0539	250	17.94	15.28	12.03	9.89
0540	350	17.94	15.28	12.03	9.89
0541	500	17.94	15.28	12.03	9.89
0542	750	20.74	16.45	12.96	10.65
0543	1250	20.74	16.45	12.96	10.65
0544	1800	22.27	17.64	13.89	11.41
0545	2250	22.27	17.64	13.89	11.41
0546	3000	22.27	17.64	13.89	11.41
0547	4500	24.71	18.92	14.91	12.25
0548	7500	28.29	21.01	16.48	13.58
0549	10K	30.26	25.73	20.28	16.65

Model "P" Rheostats—225-Watt—Size, 5" dia. x 2½" d. behind panel.
Net Ea., 1-2. **$29.71**; Net Ea., 3 Up. **$25.25**

Model "N" Rheostats—300-Watt—Size, 6" dia. x 2¾" d. behind panel.
Net Ea., 1-2. **$34.14**; Net Ea., 3 Up. **$29.02**

Resis., Ohms	Model "P"	Model "N"	Resis., Ohms	Model "P"	Model "N"
1	1250	0650	150	1262	0662
2	1251	0651	200	1263	0663
3	1252	0652	300	1264	0664
4	1253	0653	400	1265	0665
5	1254	0654	700	1266	0666
7.5	1255	0655	900	1267	0667
10	1256	0656	1200	1268	0668
15	1257	0657	1500	1269	0669
25	1258	0658	1750	1270	0670
50	1259	0659	2000	1270A	0670A
75	1260	0660	2500	1271	0671
100	1261	0661			

Model "R" Rheostats, 500-Watt—Size, 8" dia. x 2⅛" d. behind panel.
Net Ea., 1-2. **$40.57**; Net Ea., 3 Up. **$34.48**

Model "T" Rheostats, 750-Watt—Size, 10" dia. x 3" d. behind panel.
Net Ea., 1-2. **$60.09**; Net Ea., 3 Up. **$53.49**

Model "U" Rheostats, 1000-Watt—Size, 12" dia. x 3" d. behind panel.
Net Ea., 1-2. **$67.63**; Net Ea., 3 Up. **$60.87**

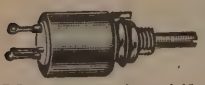
Resis., Ohms	Model "R"	Model "T"	Model "U"
1	0849	1300	1450
1.5	0850	1301	1451
2	0851	1302	1452
2.5	0852	1303	1453
3	0853	1304	1454
4	0854	1305	1455
5	0855	1306	1456
8	0856	1307	1457
10	.....	1308	1458
12.5	0857	1309	1459
16	0858	1310	1460
25	0859	1311	1461
40	0860	.....	.....
50	0872	1312	1462
75	.....	.....	1463
80	0861	1313	.....
100	.....	1314	1464
125	0862	.....	.....
160	.....	1315	.....
175	0863	.....	1465
200	.....	1316	.....
225	.....	.....	1466
250	0864	.....	.....
300	.....	1317	1467
325	0865	.....	.....
400	.....	1318	1468
500	0866	.....	1469
600	.....	1319	.....
750	0867	1320	1470
1000	0868	.....	1471
1200	.....	1321	.....
1500	0869	.....	1472
1800	.....	1322	.....
2000	0870	1322A	.....
2500	0871	1323	1473

Tandem Coupling Kits—Includes steel "U" frame, coupling with set screw, mica washer, Allen wrench and instructions.

No.	For Models	Net Each, Lots of 1-4	5-9	10-24	25 Up
6532†	H, J	$ 8.07	$6.86	$5.39	$4.43
6533‡	G, K, L	10.32	8.78	6.91	5.68
6591	E	5.43	4.62	3.64	2.99

*Silicone-ceramic coated; not UL listed. †Models G, K or L in rear position when panel mounted. ‡Models G, H, J, K or L in rear position.

MODEL C MINIATURE 7.5-WATT RHEOSTATS



Ultra-miniature 7.5-watt (at 40° C ambient) power rheostat sets the standards for high performance with minimum size. Resistance element wound on ceramic ring, coated with Ohmicone® Silicone-ceramic; joined to ceramic base. Completely insulated and enclosed in corrosion-resistant case. Designed to operate at 340° C max. hot spot temperature. **Power Rating:** 7.5 watts on steel panel 4" sq. x .04" th. at 40° C; 5 watts in non-metallic panel or transistor socket. **Resistance Tolerance:** ±10%. **Torque:** 1–3 oz.-in. **Rotation:** 300° (±5°). **Knob:** No. 5151 recommended (not supplied). **Shaft:** ¼" dia. with screwdriver slot for standard (with knob) or locking bushing. **Size:** Body .515" dia. x ⅝" lg.; bushing ¼"-32 flatted and threaded x ¼" lg. for panels to ⅛" thick. Lug terminals take 22 ga. solid or 24 ga. stranded wire; fit EIA type TS–E3R100 transistor socket. Taper pin terminals for quick-connect connectors, or spade lug terminals available on special order.

NET PRICES

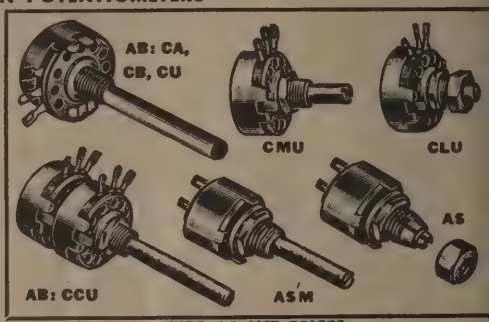
Resistance Range, Ohms	With Standard Shaft Net Each, Lots of			With Locking Shaft Net Each, Lots of		
	1-4	5-9	10 Up	1-4	5-9	10 Up
10 thru 750	$26.00	$22.11	$17.42	$29.20	$24.74	$19.50
1000 thru 2500	29.56	25.13	19.81	32.42	27.56	21.73
3500 and 5000	30.91	26.28	20.71	33.72	28.64	22.59

● **FITS TRANSISTOR SOCKETS STOCK VALUES**

Ohms	Amps	Ohmite Model No. for Std. Shaft	Ohmite Model No. for Locking Sh
10	.86	4908	4948
15	.71	4909	4949
25	.55	4910	4950
35	.46	4911	4951
50	.39	4912	4952
75	.32	4913	4953
100	.27	4914	4954
150	.22	4915	4955
200	.19	4916	4956
250	.17	4917	4957
350	.15	4918	4958
500	.12	4919	4959
750	.1	4920	4960
1000	.086	4921	4961
1500	.071	4922	4962
2500	.055	4923	4963
3500	.046	4924	4964
5000	.039	4925	4965

MOLDED COMPOSITION POTENTIOMETERS

Available in MIL-R-94 Styles RV4N, RV4L, RV6L, RV6N. High reliability for universal use as rheostats or potentiometers in industrial, military or other high quality electronic devices. All units provide a very large safety factor; overloads of short duration can be safely absorbed. Positive, trouble-free connections assured with terminals molded directly into control elements. Resistance and collector tracks are bridged by a molded composition brush for long life. Noise level is exceedingly low; actually decreases with use of the unit. Various elements of the unit are molded together at one time into a single, integral structure that is sealed against moisture. A metal cover is sealed to the element to electrically shield the internal parts; a synthetic resin is the sealing agent with non-mercurial fungicide to assure dust-tight, splash-proof and fungus resistant safety. Molding method permits predetermination of resistance-rotation characteristics to such a fine degree that ideal curves are followed quite closely. Thus, a single element with a smoothly graduated resistance change produces modified logarithmic tapers in AB units. **Type AB Controls:** Rated 2 watts at 70° C; 500 volts, rms, 60-Hz max. continuous across resistance elements: 1000 V rms for 1 sec., high potential test. Size, 1¼" dia. Available in Style CMU, single control with ¾" slotted shaft, linear taper, MIL Style RV4N; Style CU single control with 2" unslotted shaft, linear taper; Style CA clockwise modified log taper version of CU; Style CB, counter-clockwise modified log taper version of CU; Style CLU single control with locking-type shaft, linear taper MIL Style RV4L; and, Style CCU dual control with 2" shaft, linear taper. **Type AS Miniature Controls:** Rated ⅓ watt at 70° C; 350 volts, rms, 60-Hz max. continuous voltage across resistance elements; 750 V rms for 1 sec., high potential test. Size, ½" dia. Available with locking type shaft, slotted for screwdriver with collet bushing and conical nut; linear taper, MIL Style RV6L; or, ¼" lg. shaft for knob control, standard bushing MIL Style RV6N. **Temp. Range:** −55° C to +120° C, operating; derate linearly from full rating at +70° C to zero at +120° C, for linear taper; other tapers, multiply ratings obtained for linear taper by 0.5. **Humidity and Corrosion:** Temporary resistance changes less than 5% after exposure for 100 hours at 40° C to 95% relative humidity. Meets 200 hr. salt spray corrosion test QQ-M-151, military specification. **Rotation:** 312° ±3°, Type AB without on-off switch; 333°, ±3°, with switch. Type AS, 295°, ±5°.



TYPE AB NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-24	25-48	49-96	97 & Up
CMU	⅞" shaft, sgle. MIL	$5.14	$4.37	$3.60	$3.08
CU	2" shaft, linear	5.19	4.41	3.63	3.11
CA	2" shaft, CW log	5.48	4.65	3.83	3.28
CB	2" shaft, CCW log	5.48	4.65	3.83	3.28
CLU	Locking shaft, MIL	5.72	4.86	4.02	3.45
CCU	Dual locking shaft	11.81	10.04	8.25	7.08

TYPE AS, ASM NET PRICES

Ohmite No.	Description	Net Each, Lots of 1-9	10-49	50-99	100 Up
AS	Locking shaft, min. MIL	$7.81	$6.64	$5.49	$4.70
ASM	⅞" knob shaft, MIL	7.30	6.26	5.17	4.39

STOCK VALUES

MIL units are stamped with MIL and commercial designations.

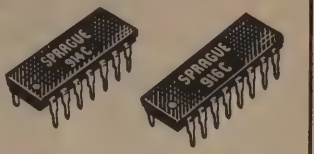
Resistance Ohms ±10%	Type AB (1⅝" Dia.) Single, ⅞" Shaft Style CMU Linear	MIL Desig. RV4NAY	Single Unit 2" Shaft Style CU Linear	Style CA CW log	Style CB CCW log	Locking Style CLU Linear	MIL Desig. RV4LAY-	Dual Style CCU Linear	Type AS (½" Dia.) Min. Locking Style AS Linear	MIL Desig. RV6LAY-	Min. ⅞" Shaft Style ASM Linear	MIL Desig. RV6NA
50	CMU5001	SD500A	CU5001	.....	.....	CLU5001	SA500A	.....				
100	CMU1011	SD101A	CU1011	.....	.....	CLU1011	SA101A	.....	AS3601	SA101A	ASM6661	SD101
150	CMU1511	SD151A	CU1511	.....	.....	CLU1511	SA151A	.....				
250	CMU2511	SD251A	CU2511	.....	.....	CLU2511	SA251A	.....	AS3602	SA251A	ASM6662	SD251
350	CMU3511	SD351A	CU3511	.....	.....	CLU3511	SA351A	.....				
500	CMU5011	SD501A	CU5011	.....	.....	CLU5011	SA501A	.....	AS3603	SA501A	ASM6663	SD501
750	CMU7511	SD751A	CU7511	.....	.....	CLU7511	SA751A	.....				
1,000	CMU1021	SD102A	CU1021	.....	.....	CLU1021	SA102A	.....	AS3604	SA102A	ASM6664	SD102
1,500	CMU1521	SD152A	CU1521	.....	.....	CLU1521	SA152A	.....				
2,500	CMU2521	SD252A	CU2521	.....	.....	CLU2521	SA252A	.....	AS3605	SA252A	ASM6665	SD252
3,500	CMU3521	SD352A	CU3521	.....	.....	CLU3521	SA352A	.....				
5,000	CMU5021	SD502A	CU5021	.....	.....	CLU5021	SA502A	.....	AS3606	SA502A	ASM6666	SD502
7,500	CMU7521	SD752A	CU7521	.....	.....	CLU7521	SA752A	.....				
10,000	CMU1031	SD103A	CU1031	.....	CB1031	CLU1031	SA103A	CCU1031†	AS3607	SA103A	ASM6667	SD103
15,000	CMU1531	SD153A	CU1531	.....	.....	CLU1531	SA153A	.....				
25,000	CMU2531	SD253A	CU2531	.....	CB2531	CLU2531	SA253A	CCU2531†	AS3608	SA253A	ASM6668	SD253
35,000	CMU3531	SD353A	CU3531	.....	.....	CLU3531	SA353A	.....				
50,000	CMU5031	SD503A	CU5031	.....	CB5031	CLU5031	SA503A	CCU5031†	AS3609	SA503A	ASM6669	SD503
75,000	CMU7531	SD753A	CU7531	.....	.....	CLU7531	SA753A	.....				
.1 meg	CMU1041	SD104A	CU1041	CA1041	.....	CLU1041	SA104A	CCU1041†	AS3610	SA104A	ASM6670	SD104
.15 meg	CMU1541	SD154A	CU1541	.....	.....	CLU1541	SA154A	.....				
.25 meg	CMU2541	SD254A	CU2541	CA2541	.....	CLU2541	SA254A	CCU2541†	AS3611	SA254A	ASM6671	SD254
.35 meg	CMU3541	SD354A	CU3541	.....	.....	CLU3541	SA354A	.....				
.5 meg	CMU5041	SD504A	CU5041	CA5041	.....	CLU5041	SA504A	CCU5041†	AS3612	SA504A	ASM6672	SD504
.75 meg*	CMU7542	SD754B	CU7542	.....	.....	CLU7542	SA754B	.....				
1.0 meg*	CMU1052	SD105B	CU1052	CA1052	.....	CLU1052	SA105B	CCU1052†	AS3613	SA105B	ASM6673	SD105
1.5 meg*	CMU1552	SD155B	CU1552	.....	.....	CLU1552	SA155B	.....				
2.0 meg*	CMU2052	SD205B	CU2052	.....	.....	CLU2052	SA205B	.....	AS3684	SA205B	ASM6674	SD205
2.5 meg*	CMU2552	SD255B	CU2552	CA2552	.....	CLU2552	SA255B	.....	AS3614	SA255B	ASM6675	SD255
3.5 meg*	CMU3552	SD355B	CU3552	.....	.....	CLU3552	SA355B	.....				
5.0 meg*	CMU5052	SD505B	CU5052	.....	.....	CLU5052	SA505B	.....	AS3615	SA505B	ASM6676	SD505

*±20% tolerance. †Resistance shown is for each unit.

SPRAGUE Metanet® Precision Resistor Networks

TYPE 914C, 916C DUAL-INLINE PACKAGE RESISTOR NETWORKS

Designed for use in signal and data processing applications where repetitive resistance values and patterns are required. Come in dual-in-line packages compatible with IC's and include up to 28 metal-film resistors on single ceramic base. **Tolerance:** ±5%. **Operating Temperature Range:** −55° C to +70° C. **Temperature Coefficient:** Within 350 ppm/° C typical. **Tracking Between Resistors:** ±50 ppm/° C. **Continuous Power Dissipation:** 914C, 3 watts; 916C, 3.5 watts; both at 25° C. Derating is linear to 150° C.



PULL-UP/PULL-DOWN INTERFACE NETWORKS

R Ohms	Fig.	Sprague No. 14-Pin	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Sprague No. 16-Pin	Net Each, Lots of 1-99	Net Each, Lots of 100-999
200	1	914C201X2PD	$0.88	$0.66	916C201X2PD	$0.90	$0.68
500	1	914C501X2PD	.88	.66	916C501X2PD	.90	.68
1000	1	914C102X2PD	.88	.66	916C102X2PD	.90	.68
2000	1	914C202X2PD	.88	.66	916C202X2PD	.90	.68
3000	1	914C302X2PD	.88	.66	916C302X2PD	.90	.68
4000	1	914C402X2PD	.88	.66	916C402X2PD	.90	.68
5000	1	914C502X2PD	.88	.66	916C502X2PD	.90	.68
68	2	914C680X2PE	.88	.66	916C680X2PE	.90	.68
100	2	914C101X2PE	.88	.66	916C101X2PE	.90	.68
150	2	914C151X2PE	.88	.66	916C151X2PE	.90	.68
200	2	914C201X2PE	.88	.66	916C201X2PE	.90	.68
220	2	914C221X2PE	.88	.66	916C221X2PE	.90	.68
330	2	914C331X2PE	.88	.66	916C331X2PE	.90	.68
470	2	914C471X2PE	.88	.66	916C471X2PE	.90	.68
500	2	914C501X2PE	.88	.66	916C501X2PE	.90	.68
680	2	914C681X2PE	.88	.66	916C681X2PE	.90	.68
1000	2	914C102X2PE	.88	.66	916C102X2PE	.90	.68
1500	2	914C152X2PE	.88	.66	916C152X2PE	.90	.68
2000	2	914C202X2PE	.88	.66	916C202X2PE	.90	.68
2200	2	914C222X2PE	.88	.66	916C222X2PE	.90	.68
3300	2	914C332X2PE	.88	.66	916C332X2PE	.90	.68
4700	2	914C472X2PE	.88	.66	916C472X2PE	.90	.68
5600	2	914C562X2PE	.88	.66	916C562X2PE	.90	.68
6200	2	914C622X2PE	.88	.66	916C622X2PE	.90	.68
6800	2	914C682X2PE	.88	.66	916C682X2PE	.90	.68
10000	2	914C103X2PE	.88	.66	916C103X2PE	.90	.68
15000	2	914C153X2PE	.88	.66	916C153X2PE	.90	.68
22000	2	914C223X2PE	.88	.66	916C223X2PE	.90	.68

INDIVIDUAL TERMINATING NETWORKS

50	3	914C500X2LT	$0.88	$0.66	916C500X2LT	$0.90	$0.68
100	3	914C101X2LT	.88	.66	916C101X2LT	.90	.68
200	3	914C201X2LT	.88	.66	916C201X2LT	.90	.68
500	3	914C501X2LT	.88	.66	916C501X2LT	.90	.68
50	4	914C500X2LU	.88	.66	916C500X2LU	.90	.68
68	4	914C680X2LU	.88	.66	916C680X2LU	.90	.68
100	4	914C101X2LU	.88	.66	916C101X2LU	.90	.68
200	4	914C201X2LU	.88	.66	916C201X2LU	.90	.68
220	4	914C221X2LU	.88	.66	916C221X2LU	.90	.68
330	4	914C331X2LU	.88	.66	916C331X2LU	.90	.68
470	4	914C471X2LU	.88	.66	916C471X2LU	.90	.68
500	4	914C501X2LU	.88	.66	916C501X2LU	.90	.68

MULTIPLE ISOLATED RESISTORS

50	5	914C500X2SR	$0.86	$0.65	916C500X2SR	$0.88	$0.66
62	5	914C620X2SR	.86	.65	916C620X2SR	.88	.66
68	5	914C680X2SR	.86	.65	916C680X2SR	.88	.66
100	5	914C101X2SR	.86	.65	916C101X2SR	.88	.66
150	5	914C151X2SR	.86	.65	916C151X2SR	.88	.66
200	5	914C201X2SR	.86	.65	916C201X2SR	.88	.66
220	5	914C221X2SR	.86	.65	916C221X2SR	.88	.66
330	5	914C331X2SR	.86	.65	916C331X2SR	.88	.66
470	5	914C471X2SR	.86	.65	916C471X2SR	.88	.66
500	5	914C501X2SR	.86	.65	916C501X2SR	.88	.66
680	5	914C681X2SR	.86	.65	916C681X2SR	.88	.66
1000	5	914C102X2SR	.86	.65	916C102X2SR	.88	.66
1500	5	914C152X2SR	.86	.65	916C152X2SR	.88	.66
2000	5	914C202X2SR	.86	.65	916C202X2SR	.88	.66
2200	5	914C222X2SR	.86	.65	916C222X2SR	.88	.66
3300	5	914C332X2SR	.86	.65	916C332X2SR	.88	.66
4700	5	914C472X2SR	.86	.65	916C472X2SR	.88	.66
6800	5	914C682X2SR	.86	.65	916C682X2SR	.88	.66
10000	5	914C103X2SR	.86	.65	916C103X2SR	.88	.66
15000	5	914C153X2SR	.86	.65	916C153X2SR	.88	.66
22000	5	914C223X2SR	.86	.65	916C223X2SR	.88	.66

DUAL TERMINATING NETWORKS

Ohms R_1	Ohms R_2	Fig.	Sprague No. 14-Pin	Net Each, Lots of 1-99	Net Each, Lots of 100-999	Sprague No. 16-Pin	Net Each, Lots of 1-99	Net Each, Lots of 100-999
81	130	6	914C500X2TR	$1.31	$0.99	916C500X2TR	$1.42	$1.07
121	195	6	914C750X2TR	1.31	.99	916C750X2TR	1.42	1.07
162	260	6	914C101X2TR	1.31	.99	916C101X2TR	1.42	1.07
180	390	6	914C121X2TRA	1.31	.99	916C121X2TRA	1.42	1.07
220	270	6	914C121X2TRB	1.31	.99	916C121X2TRB	1.42	1.07
220	330	6	914C131X2TR	1.31	.99	196C131X2TR	1.42	1.07
330	390	6	914C181X2TR	1.31	.99	916C181X2TR	1.42	1.07
330	470	6	914C191X2TR	1.31	.99	916C191X2TR	1.42	1.07
330	680	6	914C221X2TRA	1.31	.99	916C221X2TRA	1.42	1.07
390	500	6	914C221X2TR	1.31	.99	916C221X2TR	1.42	1.07

FIG. 1

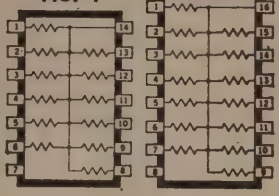


FIG. 2

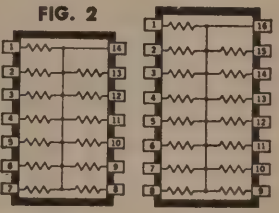


FIG. 3

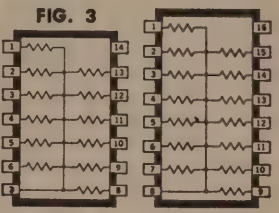


FIG. 4

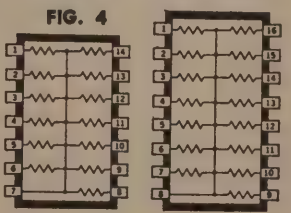


FIG. 5

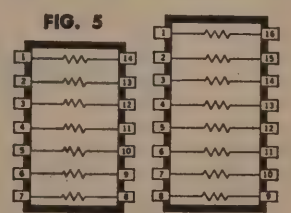
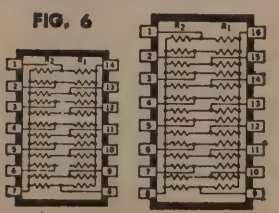


FIG. 6



IRC RESISTORS

FIXED CARBON COMPOSITION AND MOLDED WIREWOUND RESISTORS

RC CARBON COMPOSITION RESISTORS

Type No.	Watts	Resistance Range	±5% Tolerance, Net Each 1-9	10-49	50-99	100-499	±10% Tolerance, Net Each 1-9	10-49	50-99	100-499
RC07	¼	2.7Ω–22 megs	$0.28	$0.20	$0.10	$0.08	$0.14	$0.12	$0.07	$0.06
RC20	½	2.7Ω–22 megs	.28	.20	.10	.08	.14	.12	.07	.06
RC32	1	2.7Ω–22 megs	.38	.30	.20	.09	.20	.13	.10	.06
RC42	2	10Ω–22 megs	Not available individually							

BWH MOLDED WIREWOUND RESISTORS

Rating in Watts	Range of Values, Ohms	±5% Tolerance, Net Each 1-99	100-249	250-499	500-999	±10% Tolerance, Net Each 1-99	100-249	250-499	500-999
½, 1 or 2	0.1–9.1	$0.477	$0.285	$0.189	$0.143	$0.24	$0.144	$0.096	$0.064
½, 1 or 2	10–2400	.30	.18	.12	.09	.18	.108	.172	.058

BW-20 MOLDED WIREWOUND RESISTORS

Rating in Watts	Range of Values, Ohms	±5% Tolerance, Net Each 1-99	100-249	250-499	500-999	±10% Tolerance, Net Each 1-99	100-249	250-499	500-999
¼, ½ or 1	0.24–9.1	$0.505	$0.303	$0.202	$0.153				
¼, ½ or 1	10–750	.324	.195	.13	.10				
¼, ½ or 1	0.27–8.2					$0.249	$0.15	$0.102	$0.068
¼, ½ or 1	10–680					.191	.115	.078	.063

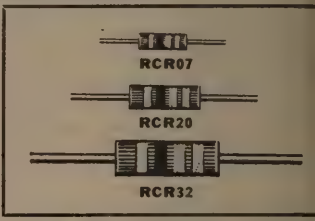
RESISTANCE CHART

Tolerance of ±10% available only in values printed in bold type; ±5% available for all.
Indicate Type, Resistance and Tolerance when ordering.

Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Ohms	Megs	Megs
0.10	0.75	**5.6**	43	**330**	2,400	**18K**	130K	**1.0**	7.5
0.11	**0.82**	6.2	**47**	360	**2,700**	20K	**150K**	1.1	**8.2**
0.12	0.91	**6.8**	51	**390**	3,000	**22K**	160K	**1.2**	9.1
0.13	**1.0**	7.5	**56**	430	**3,300**	24K	**180K**	1.3	**10**
0.15	1.1	**8.2**	62	**470**	3,600	**27K**	200K	**1.5**	11
0.16	**1.2**	9.1	**68**	510	**3,900**	30K	**220K**	1.6	**12**
0.18	1.3	**10**	75	**560**	4,300	**33K**	240K	**1.8**	13
0.20	**1.5**	11	**82**	620	**4,700**	36K	**270K**	2.0	**15**
0.22	1.6	**12**	91	**680**	5,100	**39K**	300K	**2.2**	16
0.24	**1.8**	13	**100**	750	**5,600**	43K	**330K**	2.4	**18**
0.27	2.0	**15**	110	**820**	6,200	**47K**	360K	**2.7**	20
0.30	**2.2**	16	**120**	910	**6,800**	51K	**390K**	**3.0**	**22**
0.33	2.4	**18**	130	**1,000**	7,500	**56K**	430K	**3.3**	
0.36	**2.7**	20	**150**	1,100	**8,200**	62K	**470K**	3.6	
0.39	3.0	**22**	160	**1,200**	9,100	**68K**	510K	**3.9**	
0.43	**3.3**	24	**180**	1,300	**10K**	75K	**560K**	4.3	
0.47	3.6	**27**	200	**1,500**	11K	**82K**	620K	**4.7**	
0.51	**3.9**	30	**220**	1,600	**12K**	91K	**680K**	5.1	
0.56	4.3	**33**	240	**1,800**	13K	**100K**	750K	**5.6**	
0.62	**4.7**	36	**270**	2,000	**15K**	110K	**820K**	6.2	
0.68	5.1	**39**	300	**2,200**	16K	**120K**	910K	**6.8**	

SNAP PAKS

Type No.	Tolerance	No. per Pak	Net per Pak	Tolerance	No. per Pak	Net per Pak
RC07	5%	10	$1.50	10%	10	$0.90
RC20	5%	10	1.50	10%	10	.90
RC32	5%	5	1.50	10%	5	.90
RC42	5%	5	1.50	10%	5	.90
BWH	5%	5	1.50	10%	5	.90



RC CARBON COMPOSITION

Designed for better performance and re liability. Greater moisture protectio through 50% more molding around resis ance element. Carbon working elemen thermally bonded to inert glass filamen for better resistance and temperatur characteristics. Ribbed, 1½" lg. leads in bedded in molding to prevent twist o pull-out also act as heat sinks for cool operation and longer field life. Color-code to standard EIA/MIL values.

Type RC07: Rated ¼ watt at 70° C an bient; 250 volts. Size, .250" lg. x .090" di

Type RC20: Rated ½ watt at 70° C an bient; 350 volts. Size, .390" g. x .140" di

Type RC32: Rated 1 watt at 70° C an bient; 500 volts. Size, .562" lg. x .225" di

Type RC42: Rated 2 watts at 70° C an bient; 500 volts. Size, .687" lg. x .321" di

BWH MOLDED WIREWOUND

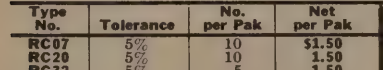
Exceptionally stable and universally suite for low range use. Available from 0.10 oh thru 2400 ohms. Small size will fit any watt composition resistor processing equi ment. Special molded housing protect element from effects of extreme climat conditions. **Temperature Coefficient:** −5 C to 150° C; 0.10 to 0.16 ohm, +0.08% C; 0.18 to 0.62 ohms, +0.06%/°C; 0.68 t 1800 ohms, ±0.02%/°C. **Power:** 2 W 70° C; 1 W at 115° C; ½ W at 137° **Size:** .562" lg. x .225" dia.; 1½" lg. lea each end.

BW-20 MOLDED WIREWOUND

Bridges the cost-performance gap betwee composition resistors and premium wir wounds. Smaller size saves space for sam power rating. Available from 0.24 thru 7 ohms. Exclusive phenolic plastic jack provides strength and moisture protectio **Temperature Coefficient:** −55° C to 12 C; 0.24 to 0.62 ohm, +0.025%/°C; .68 t 750 ohms, ±0.010%/°C. **Power:** 1 W 50° C; ½ W at 100° C; ¼ W at 125° **Size:** .390" lg. x .140" dia.; 1½" lg. lea each end.

TYPE PW FIREPROOF POWER RESISTORS

Type PW resistors are inorganically constructed and will not support combustion. They are suited for operation at high ambient temperatures and in applications where a fusible resistor will replace both fuse and resistor. Standard tolerance is ±10%. Resistance, wattage and tolerance are permanently marked on resistor body.



Type No.	Rating, Watts	Size, Ins. H.	W.	L.	Resistance Values, Ohms
PW-3	3	.31	x .31	x .88	.1, .22, .27, .33, .47, .51, .5 .82, 1, 2, 3, 4, 5, 10
PW-5	5	.35	x .38	x .88	.1, .15, .22, .27, .33, .47, .5 .56, .68, .82, 1, 2, 3, 4, 5.6, 7.5, 10, 15, 20, 25, 3 40, 50, 75, 100, 120, 12 150, 200, 250, 300, 35 400, 500, 600, 700, 75 800, 820, 900, 1000, 120 1250, 1500, 1750, 200 2250, 2500, 3000, 330 3500, 4000, 4500, 500 6000, 6800
PW-10	10	.35	x .38	x 1.88	1, 2, 3, 4, 5, 7.5, 10, 15, 2 25, 30, 40, 50, 75, 100, 12 125, 150, 200, 250, 30 350, 400, 500, 600, 70 750, 800, 820, 900, 100 1200, 1250, 1500, 175 2000, 2250, 2500, 300 3300, 3500, 3900, 400 4500, 5000, 6000, 700 7500, 8000, 8200, 850 9000, 10K, 12K, 12.5K 15K, 20K, 25K
PW-18	18	.50	x .50	x 1.88	60, 600, 810, 910, 100 1100, 1250, 1400, 6000
PW-25	25	.50	x .50	x 2.50	2, 2.2, 3, 5, 10, 20, 30, 4 100, 120, 300, 430, 60 675, 750, 820, 870, 100 1100, 1400, 1700

Type No.	Range of Values, Ohms	Net Each, Lots of 1-99	100-249	250-499	500-999	1000 Up
PW-5	0.1–6.8K	$0.29	$0.23	$0.20	$0.18	$0.16
PW-10	1–5K	.38	.25	.22	.20	.17
	6K–15K	.46	.33	.29	.27	.20
	20K–25K	.64	.47	.42	.38	.30

Type No.	Range of Values, Ohms	Resistors per Pak	Net per Pak
PW-3	.1–10	2	$0.72
PW-5	.1–6.8K	2	.58
PW-10	1–5K	2	.76
	6K–15K	2	.92
	20K–25K	2	1.28
PW-18	60–6K	1	.42
PW-25	2–1.7K	1	.55

Potentiometers

ORDERING INSTRUCTIONS

TRIMMERS AND PRECISION POTENTIOMETERS

To order, specify Model Number, followed by the Package Configuration (where applicable), and the Resistance Value desired. For example:

780 10 50K
Ⓐ Ⓑ Ⓒ

Ⓐ Model Number

Ⓑ Package Configuration (where applicable)

Ⓒ Resistance Value

MILITARY

To order, specify the Model Number, followed by the Characteristic, the Terminal Style, and the standard 3-digit Military Resistance Code. In the case of high-reliability trimmers, add the Failure Rate Level as shown in the example below.

RJ24 C P 102 M
Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ

Ⓐ Model Number

Ⓑ Characteristic

Ⓒ Terminal Style

Ⓓ 3-Digit Military Resistance Code

Ⓔ Failure Rate Level

In addition to a wide line of standard precision potentiometers and trimmers, custom design and modification models are also available to meet a wide variety of unique applications, including the exacting needs of aerospace and military electronic equipment. Models can be custom manufactured to meet specific needs.

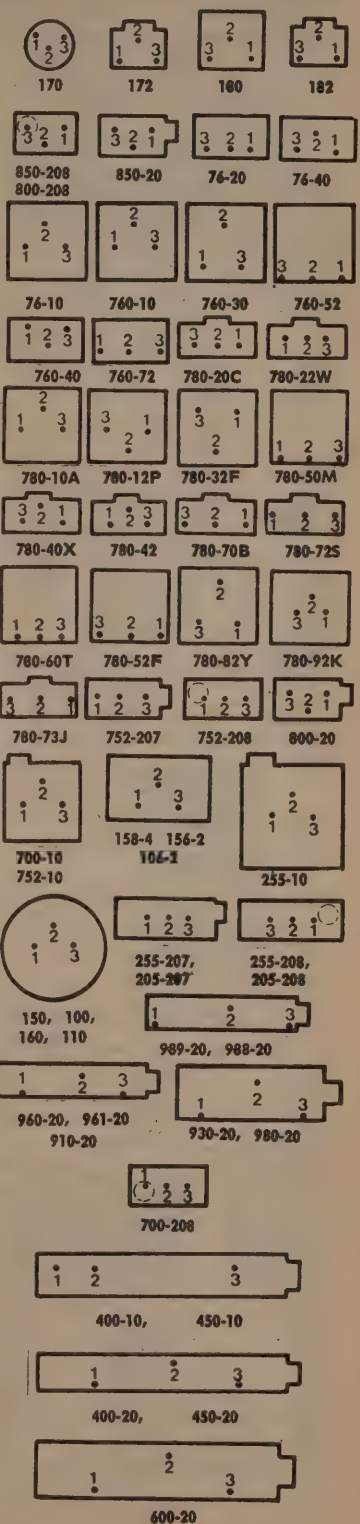
VRN Model No.	No. of Turns	R Range (ohms)	R Tol. (±%)	Power Rating @85°C Nom.
170 SERIES 1/4" ROUND†				
170	1	20-2M	10	0.5W
171	1	20-2M	10	0.5W
172	1	20-2M	10	0.5W
180 SERIES 1/4" SQUARE†				
180	1	20-2M	10	0.5W
181	1	20-2M	10	0.5W
182	1	20-2M	10	0.5W
850 SERIES 5/16" SQUARE†				
850-20	13	20-2M	10	0.3W
850-208	13	20-2M	10	0.3W
76 SERIES 3/8" SQUARE†				
76-10	1	20-2M	20	0.5W
76-20	1	20-2M	20	0.5W
76-30	1	20-2M	20	0.5W
76-40	1	20-2M	20	0.5W
760 SERIES 3/8" SQUARE†				
760-10	1	20-2M	10	0.5W
760-30	1	20-2M	10	0.5W
760-40	1	20-2M	10	0.5W
760-52	1	20-2M	10	0.5W
760-72	1	20-2M	10	0.5W
780 SERIES 3/8" SQUARE†				
780-10A	1	20-2M	10	0.5W
780-12P	1	20-2M	10	0.5W
780-20C	1	20-2M	10	0.5W
780-22W	1	20-2M	10	0.5W
780-32F	1	20-2M	10	0.5W
780-40X	1	20-2M	10	0.5W
780-42H	1	20-2M	10	0.5W
780-50M	1	20-2M	10	0.5W
780-52R	1	20-2M	10	0.5W
780-60T	1	20-2M	10	0.5W
780-70B	1	20-2M	10	0.5W
780-72S	1	20-2M	10	0.5W
780-76J	1	20-2M	10	0.5W
780-82Y	1	20-2M	10	0.5W
780-92K	1	20-2M	10	0.5W
752 SERIES 3/8" SQUARE†				
752-10	1	50-2M	10	0.75W
752-207	1	50-2M	10	0.75W
752-208	1	50-2M	10	0.75W
150 SERIES 1/2" ROUND†				
150	1	20-2M	10	0.75W
156-2	1	20-2M	10	0.75W
158-4	1	20-2M	10	0.75W
160	1	20-2M	10	0.75W
255 SERIES 1/2" SQUARE†				
255-00	24	20-2M	10	1.0W
255-10	24	20-2M	10	1.0W
255-207	24	20-2M	10	1.0W
255-208	24	20-2M	10	1.0W

VRN Model No.	No. of Turns	R Range (ohms)	R Tol. (±%)	Power Rating @85°C Nom.
960 SERIES 3/4" RECTANGULAR†				
960-20	24	20-2M	10	0.75W
961-20	24	20-2M	10	0.75W
980-20	24	20-2M	10	0.75W
988-20	24	20-2M	10	0.75W
989-20	24	20-2M	10	0.75W
450 SERIES 1 1/4" RECTANGULAR†				
450-00	22	20-2M	10	1W
450-10	22	20-2M	10	1W
450-20	22	20-2M	10	1W

TRIMMING POTENTIOMETERS, WIREWOUND

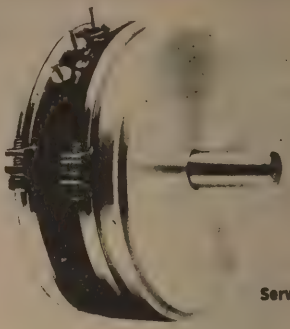
800 SERIES 5/16" SQUARE‡				
800-20	15	10-25K	5	0.6W
800-208	15	10-25K	5	0.6W
700 SERIES 3/8" SQUARE‡				
700-00	23	10-50K	5	1W
700-10	23	10-50K	5	1W
700-207	23	10-50K	5	1W
700-208	23	10-50K	5	1W
100 SERIES 1/2" ROUND‡				
100	1	20-50K	5	1W
106-2	1	20-50K	5	1W
110	1	20-50K	5	1W
205 SERIES 1/2" SQUARE‡				
205-00	24	10-50K	5	1W
205-10	24	10-50K	5	1W
205-207	24	10-50K	5	1W
205-208	24	10-50K	5	1W
910 SERIES 3/4" RECTANGULAR‡				
910-20	20	10-50K	10	1W
930-20	20	10-50K	10	1W
901 SERIES 1" RECTANGULAR‡				
901-20	28	50-60K	5	1W
400 SERIES 1 1/4" RECTANGULAR‡				
400-00	22	50-50K	5	1W
400-10	22	50-50K	5	1W
400-20	22	50-50K	5	1W
600 SERIES 1 1/4" RECTANGULAR‡				
600-00	22	10-50K	5	1W
600-20	22	10-50K	5	1W

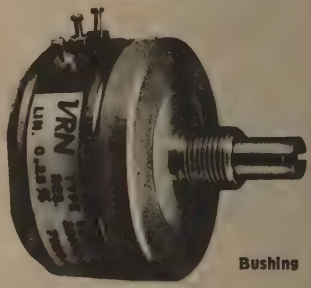
†Temp. Coeff. (ppm/°C): ±100.
‡Temp. Coeff. (ppm/°C): ±50.



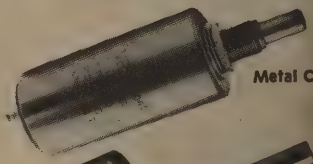
TRIMMING POTENTIOMETERS—MILITARY—CERMET AND WIREWOUND

VRN Model No.	No. of Turns	R Range (ohms)	R Tol. (±%)	Power Rating @85°C Nom.	Temp. Coeff.
RJ50/RJR50 SERIES 1/4" SQUARE, CERMET					
RJ50P	1	100-500K	10	0.25W	MIL-R-22097/6C,F
RJR50P	1	100-500K	10	0.25W	MIL-R-39035/4C,F
RJ24/RJR24 SERIES 3/8" SQUARE, CERMET					
RJ24P	21	20-1M	10	0.5W	MIL-R-22097/4C,F,H
RJ24X	21	20-1M	10	0.5W	MIL-R-22097/4C,F,H
RJ24W	21	20-1M	10	0.5W	MIL-R-22097/4C,F,H
RJR24P	21	100-1M	10	0.5W	MIL-R-39035/2C,F,H
RJR24X	21	100-1M	10	0.5W	MIL-R-39035/2C,F,H
RJR24W	21	100-1M	10	0.5W	MIL-R-39035/2C,F,H
RJ22 SERIES 1/2" SQUARE, CERMET					
RJ22L	24	10-1M	10	0.5W	MIL-R-22097/3C,F
RJ22P	24	10-1M	10	0.5W	MIL-R-22097/3C,F
RJ22X	24	10-1M	10	0.5W	MIL-R-22097/3C,F
RJ22W	24	10-1M	10	0.5W	MIL-R-22097/3C,F
RJ12/RJR12 SERIES 1 1/4" RECTANGULAR, CERMET					
RJ12L	22	100-1M	10	0.75W	MIL-R-22097/2C,F
RJ12P	22	100-1M	10	0.75W	MIL-R-22097/2C,F
RJ12Y	22	100-1M	10	0.75W	MIL-R-22097/2C,F
RJR12L	22	100-1M	10	0.75W	MIL-R-39035/1B,C,F
RJR12Y	22	100-1M	10	0.75W	MIL-R-39035/1B,C,F
RT24/RTR24 SERIES 3/8" SQUARE, WIREWOUND					
RT24L	21	10-10K	5	0.75W	MIL-R-27208/9C
RT24P	21	10-10K	5	0.75W	MIL-R-27208/9C
RT24X	21	10-10K	5	0.75W	MIL-R-27208/9C
RT24W	21	10-10K	5	0.75W	MIL-R-27208/9C
RTR24P	21	10-10K	5	0.75W	MIL-R-39015/3D
RTR24X	21	10-10K	5	0.75W	MIL-R-39015/3D
RTR24W	21	10-10K	5	0.75W	MIL-R-39015/3D
RT22 SERIES 1/2" SQUARE, WIREWOUND					
RT22L	24	50-20K	5	0.75W	MIL-R-27208/4C
RT22P	24	50-20K	5	0.75W	MIL-R-27208/4C
RT22X	24	50-20K	5	0.75W	MIL-R-27208/4C
RT22W	24	50-20K	5	0.75W	MIL-R-27208/4C
RT12 SERIES 1 1/4" RECTANGULAR, WIREWOUND					
RT12L	22	100-20K	5	0.75W	MIL-R-27208/8C
RT12P	22	100-20K	5	0.75W	MIL-R-27208/8C
RT12Y	22	100-20K	5	0.75W	MIL-R-27208/8C


Servo



Bushing


Metal Case



Metal Case

WIREWOUND POTENTIOMETERS, SERVO AND BUSHING MOUNT, PLASTIC CASE

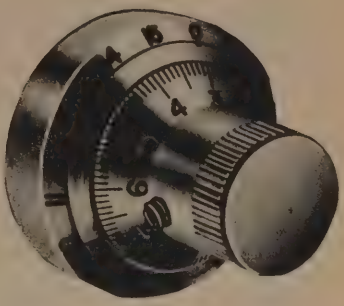
VRN Model No.	No. of Turns	R Range (ohms)	R Tol. (±%)	Power Rating (@70°C)	Dimensions In Inches			
					Body		Shaft/Bushing	
					Dia.	Lgth.	Dia.	Lgth.
SERVO MOUNT								
0871-0001	1	100-10K	3	1.25W	.875	.670	.125	.500
1061-0001	1	100-20K	3	1.5W	1.062	.670	.125	.875
1441-0001	1	100-40K	3	2W	1.437	.800	.250	.625
1751-0001	1	50-50K	3	2.5W	1.750	.800	.250	.625
2001-0001	1	100-60K	3	4W	2.000	.800	.250	.625
3001-0001	1	200-100K	3	6W	3.000	.800	.250	.625
BUSHING MOUNT								
0871-0002	1	100-10K	3	1.25W	.875	.645	.125	.250/.250
1061-0002	1	100-20K	3	1.5W	1.062	.645	.125	.500/.250
1441-0002	1	100-40K	3	2W	1.437	.850	.250	.500/.375
1751-0002	1	50-50K	3	2.5W	1.750	.850	.250	.500/.375
2001-0001	1	100-60K	3	4W	2.000	.850	.250	.500/.375
3001-0002	1	200-100K	3	6W	3.000	.850	.250	.500/.375
INDUSTRIAL METAL CASE								
5001	1	10-50K	5	2W	.500	.487	.125	.125/.375
5005	5	50-50K	5	1W	.500	1.031	.250	.500/.500
5000	10	100-100K	5	1.5W	.750	1.469	.250	.500/.500
7501	1	50-50K	5	2.25W	.750	.375	.125	.500/.375
7405	5	100-50K	5	2W	.750	.750	.250	.500/.312
7400	10	100-100K	5	3W	.750	1.125	.250	.500/.500
1005	5	250-100K	5	2W	1.000	.938	.250	.500/.500
1000	10	500-250K	5	3W	1.000	1.344	.250	.500/.500
1215	15	500-450K	5	4W	1.000	1.850	.250	.500/.500
1220	20	1K-600K	5	5W	1.000	2.219	.250	.500/.500
151	1	100-100K	5	3.5W	1.500	.500	.250	.500/.500


Plastic Ca


Plastic Case

WIREWOUND POTENTIOMETERS, SERVO AND BUSHING MOUNT, PLASTIC CASE

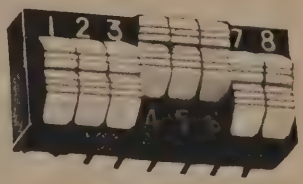
VRN Model No.	No. of Turns	R Range (ohms)	R Tol. (±%)	Power Rating (@70°C)	Dimensions In Inches			
					Body		Shaft/Bushing	
					Dia.	Lgth.	Dia.	Lgth.
INDUSTRIAL PLASTIC CASE								
8403	3	50-50K	5	2W	.875	.641	.250	.500/.312
8405	5	50-50K	5	2W	.875	.765	.250	.500/.312
8400	10	100-100K	5	3W	.875	1.125	.250	.500/.312
7803	3	100-50K	5	1W	.875	.750	.250	.500/.312
7805	5	100-100K	5	1.5W	.875	.750	.250	.500/.312
7800	10	100-100K	5	2W	.875	.750	.250	.500/.312
7800-T	10	100-50K	5	2W	.875	.718	.250	.500/.312
HD153	3	200-250K	5	3W	1.500	1.203	.250	.500/.312
HD155	5	200-500K	5	4W	1.500	1.622	.250	.500/.312
HD150	10	500-500K	5	5W	1.500	2.000	.250	.500/.312



VH Series

PRECISION CONDUCTIVE PLASTIC POTENTIOMETERS, SERVO AND BUSHING TYPES

SERVO								
7561-0001	1	100-1M	20	1W	.750	.468	.125	.500
7561-1001	1	100-1M	20	1W	.750	.468	.125	.500
BUSHING								
7561-0002	1	100-1M	20	1W	.750	.375	.125	.500/.375



7095

ROTARY COUNTING DIALS

VRN Model No.	Description	Body Dia.	Shaft Diameter	No. of Turns	Colors	Case
VN400	Ultra Precision	1"	3/32", 1/8", 1/4"	10	Clear or Black	Metal
VNK400	Ultra Precision	1"	3/32", 1/8", 1/4"	15	Clear or Black	Metal
VN700	Miniature	3/4"	3/32", 1/8", 1/4"	10	Clear or Black	Metal
VN1400	Miniature	1"	3/38", 1/8", 1/4"	10	Clear or Black	Plastic



9965

LOW PROFILE DIP SWITCH

VRN Model No.	No. of Poles	Contact R mohm	A&V Rating Max.	Insul. R	Dielectric Strength	Cap. Between Switches
7095§	2-10	5	.025A@24VDC	1000 megohm	500VAC	5pF Max.

§Rated Life: 10,000 cycles.

5-TURN TRIMMING POTENTIOMETERS

VRN Model No.	No. of Turns	R Range	Tolerance	Power Rating	Temp. Coeff.
9965	5	10-1M	±20%	0.75W@70°C	±100

BRIDGE-T ATTENUATORS

VRN Model No.	No. of Turns	Imp. (ohms)	Rating W@70°C	Temp. Range °C	Dimensions In Inches		
					Width	Length	Height
9950*	5	75 ±20%	0.125W	−55 to +125	.310	.688	.310
9955*	5		0.125	−55 to +125	.310	.310	.688

*Attenuation Vs Frequency: 1 dB max. attenuation variation from DC to 300 MHz @ 10 dB.



9950



9955

Arco Dur-Mica Capacitors

TYPE DM DIPPED SILVERED MICA CAPACITORS



Highly reliable, compact silvered mica capacitors coated for maximum protection against moisture and temperature extremes. Meet or exceed MIL-C-5D and EIA standards for fixed mica capacitors. **Operating Temperature Range:** −55° C to +150° C. **Type DM:** Per MIL-C-5D. **Type SCDM:** Single coat of resin; thinner than regular DM-10's and DM-15's. To order, use prefix **SC. Tolerances Available:** ±10%, ±5%, ±2%, ±1%, ±½%, ±0.5 pF and ±1.0 pF. Prices are for ±5% tolerance (suffix **J**) unless otherwise noted. **Working Voltage:** As shown; MIL-C-5D indicated by sixth character in MIL number (e.g., CM05C**D**060D03): A=100, C=300, and D=500 WVDC.

TYPE DM-5—50 WVDC

Arco Number DM-	Cap., pF	Net Each, Lots of 10-90	100-490	500-990
5EY680J	68	$0.454	$0.341	$0.284
5EY750J	75	.470	.353	.294
5EY820J	82	.497	.373	.311
5FY910J	91	.533	.400	.333
5FY101J	100	.544	.409	.340
5FY111J	110	.572	.429	.357
5FY121J	120	.610	.458	.382
5FY131J	130	.628	.471	.393
5FY151J	150	.701	.525	.438
5FY161J	160	.732	.549	.458
5FY181J	180	.786	.590	.492
5FY201J	200	.872	.654	.546
5FY221J	220	.924	.694	.577
5FY241J	240	.970	.728	.606
5FY251J	250	.997	.748	.623
5FY271J	270	1.06	.793	.661
5FY301J	300	1.14	.857	.713
5FY331J	330	1.21	.921	.757
5FY361J	360	1.37	1.03	.854
5FY391J	390	1.58	1.19	.988

TYPE DM-5—300 WVDC

Arco Number DM-	Cap., pF	Net Each, Lots of 10-90	100-490	500-990
5CC010D‡	1	$0.432	$0.324	$0.270
5CC020D‡	2	.432	.324	.270
5CC030D‡	3	.432	.324	.270
5CC040D‡	4	.432	.324	.270
5CC050D‡	5	.432	.324	.270
5CC060D‡	6	.432	.324	.270
5CC070D‡	7	.432	.324	.270
5CC080D‡	8	.432	.324	.270
5CC100J	10	.267	.200	.167
5CC120J	12	.267	.200	.167
5CC150J	15	.280	.210	.175
5CC180J	18	.328	.246	.205
5CC200J	20	.328	.246	.205
5CC220J	22	.339	.254	.212
5CC240J	24	.339	.254	.212
5EC270J	27	.350	.263	.219
5EC300J	30	.364	.273	.227
5EC330J	33	.375	.281	.235
5EC360J	36	.375	.281	.235
5EC390J	39	.396	.297	.247
5EC430J	43	.409	.307	.255
5EC470J	47	.425	.319	.266
5EC500J	50	.425	.319	.266
5EC510J	51	.441	.331	.276
5EC560J	56	.454	.341	.284
5EC620J	62	.477	.358	.298
5EC680J	68	.497	.373	.311
5EC750J	75	.533	.400	.333
5EC820J	82	.572	.429	.357
5FC910J	91	.610	.458	.382
5FC101J	100	.628	.471	.393
5FC111J	110	.673	.505	.421
5FC121J	120	.701	.525	.438
5FA131J†	130	.628	.471	.393
5FA151J†	150	.701	.525	.438
5FA161J†	160	.732	.549	.458
5FA181J†	180	.786	.590	.492
5FA201J†	200	.872	.654	.546

TYPE DM-10—500 WVDC

C characteristic 1–18 pF; **E** characteristic 20–82 pF; **F** characteristic 91 pF and up.

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 10-90	100-490	500-990	1000-1990
10-010D‡	CM04CD010D03‡	1	$.305	$.229	$.191	$.153
10-020D‡	.....	2	.305	.229	.191	.153
10-030D‡	.....	3	.305	.229	.191	.153
10-050D‡	CM04CD050D03‡	5	.305	.229	.191	.153
10-100J	CM04CD100J03	10	.305	.229	.191	.153
10-120J	CM04CD120J03	12	.305	.229	.191	.153
10-150J	CM04CD150J03	15	.305	.229	.191	.153
10-180J	CM04CD180J03	18	.305	.229	.191	.153
10-200J	CM04ED200J03	20	.240	.180	.150	.120
10-220J	CM04ED220J03	22	.240	.180	.150	.120
10-240J	CM04ED240J03	24	.240	.180	.150	.120
10-270J	CM04ED270J03	27	.240	.180	.150	.120
10-300J	CM04ED300J03	30	.240	.180	.150	.120
10-330J	CM04ED330J03	33	.240	.180	.150	.120
10-360J	CM04ED360J03	36	.273	.206	.171	.137
10-390J	CM04ED390J03	39	.273	.206	.171	.137

†100 WVDC. ‡Tolerance, ±0.5 pF. §300 WVDC.

TYPE DM-10—500 WVDC (CONT'D)

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 10-90	100-490	500-990	1000-1990
10-430J	CM04ED430J03	43	$.273	$.206	$.171	$.137
10-470J	CM04ED470J03	47	.273	.206	.171	.137
10-500J	.....	50	.273	.206	.171	.137
10-510J	CM04ED510J03	51	.273	.206	.171	.137
10-560J	CM04ED560J03	56	.273	.206	.171	.137
10-620J	CM04ED620J03	62	.273	.206	.171	.137
10-680J	CM04ED680J03	68	.278	.209	.174	.139
10-750J	CM04ED750J03	75	.278	.209	.174	.139
10-820J	CM04ED820J03	82	.283	.212	.176	.142
10-910J	CM04FD910J03	91	.285	.214	.179	.142
10-101J	CM04FD101J03	100	.285	.214	.179	.142
10-111J	CM04FD111J03	110	.285	.214	.179	.142
10-121J	CM04FD121J03	120	.285	.214	.179	.142
10-131J	CM04FD131J03	130	.294	.220	.184	.147
10-151J	CM04FD151J03	150	.301	.226	.188	.150
10-161J	CM04FD161J03	160	.319	.240	.199	.159
10-181J	CM04FD181J03	180	.346	.260	.216	.173
10-201J	CM04FD201J03	200	.384	.288	.241	.192
10-221J	CM04FD221J03	220	.396	.297	.247	.198
10-241J	CM04FD241J03	240	.429	.322	.269	.215
10-251J	.....	250	.429	.322	.269	.215
10-271J§	CM04FC271J03§	270	.409	.307	.255	.205
10-301J§	CM04FC301J03§	300	.454	.341	.284	.227
10-331J†	CM04FA331J03†	330	.429	.322	.269	.215
10-361J†	CM04FA361J03†	360	.454	.341	.284	.227
10-391J†	CM04FA391J03†	390	.493	.370	.308	.246

TYPE DM-15—500 WVDC

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 10-90	100-490	500-990	1000-1990
15-010D‡	CM05CD010D03‡	1	$.203	$.153	$.113	$.102
15-020D‡	.....	2	.203	.153	.113	.102
15-030D‡	.....	3	.203	.153	.113	.102
15-040D‡	.....	4	.203	.153	.113	.102
15-050D‡	CM05CD050D03‡	5	.203	.153	.113	.102
15-060D‡	CM05CD060D03‡	6	.203	.153	.128	.102
15-070D‡	CM05CD070D03‡	7	.203	.153	.128	.102
15-080D‡	CM05CD080D03‡	8	.203	.153	.128	.102
15-100J	CM05CD100J03	10	.203	.153	.128	.102
15-120J	CM05CD120J03	12	.190	.142	.119	.095
15-150J	CM05CD150J03	15	.190	.142	.119	.095
15-180J	CM05CD180J03	18	.190	.142	.119	.095
15-200J	CM05ED200J03	20	.190	.142	.119	.095
15-220J	CM05ED220J03	22	.190	.142	.119	.095
15-240J	CM05ED240J03	24	.190	.142	.119	.095
15-270J	CM05ED270J03	27	.190	.142	.119	.095
15-300J	CM05ED300J03	30	.190	.142	.119	.095
15-330J	CM05ED330J03	33	.190	.142	.119	.095
15-360J	CM05ED360J03	36	.190	.142	.119	.095
15-390J	CM05ED390J03	39	.190	.142	.119	.095
15-430J	CM05ED430J03	43	.190	.142	.119	.095
15-470J	CM05ED470J03	47	.190	.142	.119	.095
15-500J	.....	50	.190	.142	.119	.095
15-510J	CM05ED510J03	51	.190	.142	.119	.095
15-560J	CM05ED560J03	56	.190	.142	.119	.095
15-620J	CM05ED620J03	62	.199	.149	.124	.099
15-680J	CM05ED680J03	68	.199	.149	.124	.099
15-750J	CM05ED750J03	75	.199	.149	.124	.099
15-820J	CM05ED820J03	82	.199	.149	.124	.099
15-910J	CM05FD910J03	91	.199	.149	.124	.099
15-101J	CM05FD101J03	100	.199	.149	.124	.099
15-111J	CM05FD111J03	110	.199	.149	.124	.099
15-121J	CM05FD121J03	120	.217	.163	.136	.108
15-131J	CM05FD131J03	130	.233	.175	.146	.116
15-151J	CM05FD151J03	150	.233	.175	.146	.116
15-161J	CM05FD161J03	160	.240	.180	.150	.120
15-181J	CM05FD181J03	180	.262	.197	.164	.131
15-201J	CM05FD201J03	200	.262	.197	.164	.131
15-221J	CM05FD221J03	220	.273	.206	.171	.137
15-241J	CM05FD241J03	240	.292	.219	.182	.146
15-251J	.....	250	.292	.219	.182	.146
15-271J	CM05FD271J03	270	.312	.234	.195	.156
15-301J	CM05FD301J03	300	.334	.251	.209	.167
15-331J	CM05FD331J03	330	.364	.273	.227	.182
15-361J	CM05FD361J03	360	.391	.294	.244	.195
15-391J	CM05FD391J03	390	.396	.297	.247	.198
15-431J	.....	430	.436	.328	.272	.218
15-471J	.....	470	.454	.341	.284	.227
15-501J	.....	500	.470	.341	.294	.235
15-511J	.....	510	.488	.366	.305	.244
15-561J§	.....	560	.488	.366	.305	.244
15-621J§	.....	620	.522	.392	.327	.261
15-681J§	.....	680	.588	.441	.367	.294
15-751J§	.....	750	.628	.471	.393	.314
15-821J§	.....	820	.678	.509	.424	.339
15-911J†	.....	910	.587	.441	.367	.294
15-102J†	.....	1000	.644	.484	.402	.322
15-112J†	.....	1100	.678	.509	.424	.339
15-122J†	.....	1200	.771	.582	.481	.385

TYPE DM-19—500 WVDC

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 10-90	100-490	500-990	1000-1990
19-101J	.....	100	$.341	$.257	$.214	$.171
19-111J	.....	110	.341	.257	.214	.171
19-121J	.....	120	.341	.257	.214	.171
19-131J	.....	130	.341	.257	.214	.171
19-151J	.....	150	.341	.257	.214	.171
19-161J	.....	160	.341	.257	.214	.171
19-181J	.....	180	.341	.257	.214	.171
19-201J	.....	200	.341	.257	.214	.171
19-221J	.....	220	.341	.257	.214	.171

(CONTINUED ON FOLLOWING PAGE)

DIPPED MICA CAPACITORS (CONT'D)

TYPE DM-19—500 WVDC (CONT'D)

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 10-90	100-490	500-990	1000-1990
19-241J		240	$.341	$.257	$.214	$.171
19-251J		250	.341	.257	.214	.171
19-271J		270	.341	.257	.214	.171
19-301J		300	.341	.257	.214	.171
19-331J		330	.341	.257	.214	.171
19-361J		360	.341	.257	.214	.171
19-391J		390	.341	.257	.214	.171
19-431J	CM06FD431J03	430	.341	.257	.214	.171
19-471J	CM06FD471J03	470	.368	.277	.231	.184
19-501J		500	.368	.277	.231	.184
19-511J	CM06FD511J03	510	.368	.277	.231	.184
19-561J	CM06FD561J03	560	.368	.277	.231	.184
19-621J	CM06FD621J03	620	.368	.277	.231	.184
19-681J	CM06FD681J03	680	.368	.277	.231	.184
19-751J	CM06FD751J03	750	.447	.336	.280	.224
19-821J	CM06FD821J03	820	.488	.366	.305	.244
19-911J	CM06FD911J03	910	.488	.366	.305	.244
19-102J	CM06FD102J03	1000	.438	.329	.275	.219
19-112J	CM06FD112J03	1100	.544	.417	.348	.278
19-122J	CM06FD122J03	1200	.583	.437	.365	.292
19-132J	CM06FD132J03	1300	.612	.460	.383	.306
19-152J	CM06FD152J03	1500	.655	.492	.410	.328
19-162J	CM06FD162J03	1600	.655	.492	.410	.328
19-182J	CM06FD182J03	1800	.771	.579	.481	.385
19-202J	CM06FD202J03	2000	.848	.636	.530	.424
19-222J	CM06FD222J03	2200	.902	.680	.566	.453
19-242J	CM06FD242J01	2400	.958	.719	.599	.479
19-252J		2500	.983	.738	.616	.492
19-272J	CM06FD272J03	2700	1.04	.776	.647	.518
19-302J	CM06FD302J03	3000	1.05	.785	.654	.523
19-332J	CM06FD332J03	3300	1.13	.846	.705	.564
19-362J	CM06FD362J03	3600	1.21	.905	.755	.603
19-392J	CM06FD392J03	3900	1.30	.972	.809	.647
19-432J	CM06FD432J03	4300	1.44	1.05	.897	.718
19-472J	CM06FD472J03	4700	1.46	1.09	.911	.729
19-502J		5000	1.65	1.23	1.03	.823
19-512J		5100	1.67	1.27	1.05	.837
19-562J*		5600	1.57	1.18	.983	.786
19-622J*		6200	1.79	1.34	1.12	.894
19-682J†		6800	1.50	1.13	.938	.750
19-752J†		7500	1.67	1.27	1.05	.837
19-822J†		8200	1.88	1.41	1.18	.941

*300 WVDC. †100 WVDC. **Note:** Values listed in DM-30 and -42 cases are "F" characteristic.

TYPE DM-30—500 WVDC

Arco Number DM-	MIL-C-5D Type	Cap., pF	Net Each, Lots of 1-24	25-99	100-490	500-990
30-512J	CM07FD512J03	5100	$1.57	$1.18	$.983	$.786
30-562J	CM07FD562J03	5600	1.66	1.24	1.04	.829
30-622J	CM07FD622J03	6200	1.81	1.48	1.23	.983
30-682J	CM07FD682J03	6800	1.97	1.47	1.23	.983
30-752J	CM07FD752J03	7500	1.03	1.62	1.34	1.08
30-822J	CM07FD822J03	8200	2.28	1.72	1.42	1.14
30-912J	CM07FD912J03	9100	2.53	1.90	1.58	1.27
30-103J	CM07FD013J03	10000	2.71	2.03	1.70	1.36
30-113J	CM07FD113J03	11000	2.94	2.20	1.84	1.47
30-123J	CM07FD123J03	12000	3.16	2.37	1.98	1.58
30-133J	CM07FD133J03	13000	3.41	2.57	2.14	1.71
30-153J	CM07FD153J03	15000	3.84	2.88	2.41	1.92
30-163J	CM07FD163J03	16000	4.09	3.07	2.55	2.05
30-183J	CM07FD183J03	18000	4.52	3.39	2.83	2.26
30-203J	CM07FD203J03	20000	5.04	3.79	3.15	2.52

TYPE DM-42—500 WVDC

42-203J		20000	Prices Available on Request
42-223J	CM08FD223J03	22000	
42-243J	CM08FD243J03	24000	
42-253J		25000	
42-273J	CM08FD273J03	27000	
42-303J	CM08FD303J03	30000	
42-333J	CM08FD333J03	33000	
42-363J	CM08FD363J03	36000	
42-393J	CM08FD393J03	39000	
42-433J	CM08FD433J03	43000	
42-473J	CM08FD473J03	47000	
42-503J		50000	
42-513J	CM08FD513J03	51000	
42-563J	CM08FC563J03	56000	
42-623J	CM08FC623J03	62000	
42-683J	CM08FC683J03	68000	
42-753J	CM08FA753J03	75000	
42-823J	CM08FA823J03	82000	

TRIMMER AND PADDER CAPACITORS

TRIMMERS

All types 175 WVDC, 350 WVDCT.

Type 40: Miniature, ⅜" x ¾". **Type 42:** Midget, ⅜" x ¾". **Type 46:** Standard, ¾" x ⅝". India ruby mica. Ceramic base.

Note: Type 46 trimmer assembly with mtg. bracket and adjusting shaft for ease of tuning is also available. Add prefix "S" to trimmer number; prices on request. Type 40, 42 and 46 also available as printed circuit trimmers. Add prefix "PC" to trimmer number; prices available on request.

TYPE 40, 42, 46 TRIMMERS (FIG. A)

Arco No.	No. of Plates	Guar. Cap., pF Tight (Max.)	Open* (Min.)	Net Each, Lots of 1-24	25-99*
400	1⅛	7	0.9	$0.93	$0.81
402	2	20	1.5	.93	.81
403	3	35	3	1.13	1.01
404	4	60	8	1.37	1.21
405	5	80	10	1.70	1.50
406	6	115	15	1.75	1.60
420	1⅛	12	1	.97	.90
421	1¾	25	2	.93	.81
422	2	40	4	.93	.81
423	3	100	7	1.08	.96
424	4	150	14	1.34	1.20
425	5	200	24	1.43	1.31
426	6	250	37	1.70	1.50
427	7	300	55	1.88	1.71
428	8	350	70	2.12	1.87
429	9	400	90	2.12	1.87
4210	10	450	110	2.37	2.14
4211	11	500	130	2.68	2.39
4212	12	550	150	2.74	2.48
4213	13	600	170	2.98	2.69
4214	14	650	190	3.18	2.88
4215	15	700	210	3.35	2.96
460	1¼	15	1.5	1.02	.87
461	1¾	30	2.7	1.02	.87
462	2	80	5	1.02	.87
463	3	180	9	1.22	1.10
464	4	280	25	1.39	1.19
465	5	380	50	1.50	1.28
466	6	480	80	1.68	1.44
467	7	580	110	1.68	1.44
468	8	680	140	2.04	1.75
469	9	780	170	2.44	2.09
4610	10	900	190	2.44	2.09
4611	11	1000	210	2.44	2.09
4612	12	1100	240	2.84	2.44
4613	13	1200	300	3.06	2.63
4614	14	1300	340	3.20	2.76
4615	15	1400	390	3.43	2.95



★LARGER QUANTITY PRICES AVAILABLE ON REQUEST

Ceramic Capacitors

MONO-KAP™ CERAMIC CAPACITORS



MINIATURE MONOLITHIC, RADIAL LEAD, EPOXY COATED

Provide very high capacitance in extremely small size ceramic package. Reliable Ceramolithic® construction and 100% testing assures top performance and maximum quality. **Operating Temperature:** −55° C to +125° C. **Insulation Resistance:** 100K megs or 1000 megohm-microfarads, whichever is less at 25° C, rated VDCW applied. **Leads:** Tinned wire.

CN SERIES—ULTRA-STABLE

EIA Temperature Characteristic: COG (NPO). **Temp. vs Cap.:** 0 ±30 ppm/° C max. cap. change from +25° C reading over temp. range of +25° C to +85° C. **Dissipation Factor:** 0.15% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**).

100 VDCW

Capacitance pF or μF	CRL Number*	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000
10	CN15A100K	$0.38	$0.15	$0.122
15	CN15A150K	.38	.15	.122
22	CN15A220K	.38	.15	.122
33	CN15A330K	.38	.15	.122
47	CN15A470K	.38	.15	.122
68	CN15A680K	.38	.15	.122
100	CN15A101K	.38	.15	.122
150	CN15A151K	.43	.18	.143
220	CN15A221K	.43	.18	.143
330	CN20A331K	.73	.39	.200
470	CN20A471K	.73	.39	.200
680	CN20A681K	.73	.39	.200
.001 μF	CN20A102K	.73	.39	.200
.0015	CN20A152K	.97	.49	.262
.022	CN30A222K	1.99	.82	.644
.0033	CN30A332K	1.99	.82	.644
.0047	CN30A472K	2.96	1.22	.955
.0068	CN30A682K	4.49	1.85	1.454
.01	CN40A103K	3.81	1.56	1.23

CW SERIES—TEMPERATURE STABLE

EIA Temperature Characteristic: X7R. **Temp. vs Cap.:** ±15% max. cap. change from +25° C reading over temp. range of −55° C to +125° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±10% (suffix **K**); ±20% (suffix **M**).

50 VDCW

150pF	CW15C151K	$0.42	$0.15	$0.122
180	CW15C181K	.42	.15	.122
220	CW15C221K	.42	.15	.122
270	CW15C271K	.42	.15	.122
330	CW15C331K	.42	.15	.122
390	CW15C391K	.42	.15	.122
470	CW15C471K	.42	.15	.122
560	CW15C561K	.42	.15	.122
680	CW15C681K	.42	.15	.122
820	CW15C821K	.42	.15	.122
.001 μF	CW15C102K	.42	.15	.122
.001	CW15C102M	.28	.14	.103
.0012	CW15C122K	.42	.15	.122
.0015	CW15C152K	.42	.15	.122
.0018	CW15C182K	.42	.15	.122
.0022	CW15C222K	.42	.15	.122
.0027	CW15C272K	.42	.15	.122
.0033	CW15C332K	.42	.15	.122
.0039	CW15C392K	.42	.15	.122
.0047	CW15C472K	.45	.17	.132
.0068	CW15C682K	.45	.17	.132
.0082	CW15C822K	.50	.18	.144
.01	CW15C103K	.50	.18	.144
.01	CW16C103M	.33	.17	.122
.012	CW15C123K	.50	.18	.144
.015	CW15C153K	.50	.18	.144
.018	CW20C183K	.52	.25	.192
.022	CW20C223K	.52	.25	.192
.027	CW20C273K	.52	.25	.192
.033	CW20C333K	.52	.25	.192
.039	CW20C393K	.53	.32	.253
.047	CW20C473K	.53	.32	.253
.056	CW20C563K	.82	.51	.395
.068	CW20C683K	.82	.51	.395
.082	CW20C823K	.82	.51	.395
.1	CW30C104K	1.05	.65	.505
.1	CW30C104M	.85	.54	.442
.15	CW30C154K	1.39	.85	.661
.22	CW30C224K	1.85	1.14	.891

100 VDCW

150 pF	CW15A151K	$0.42	$0.15	$0.122
180	CW15A181K	.42	.15	.122
220	CW15A221K	.42	.15	.122
270	CW15A271K	.42	.15	.122
330	CW15A331K	.42	.15	.122
390	CW15A391K	.42	.15	.122
470	CW15A471K	.42	.15	.122
560	CW15A561K	.42	.15	.122
680	CW15A681K	.42	.15	.122
820	CW15A811K	.42	.15	.122

CW SERIES (CONTINUED)

100 VDCW

Capacitance pF of μF	CRL Number*	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-900
.001 μF	CW15A102K	$0.42	$0.15	$0.122
.0012	CW15A122K	.42	.15	.122
.0015	CW15A152K	.42	.15	.122
.0018	CW15A182K	.42	.15	.122
.0022	CW15A222K	.42	.15	.122
.0027	CW15A272K	.45	.17	.132
.0033	CW15A332K	.45	.17	.132
.0039	CW15A392K	.45	.17	.132
.0047	CW15A472K	.45	.17	.132
.0056	CW15A562K	.45	.17	.132
.0068	CW20A682K	.48	.25	.192
.0082	CW20A822K	.48	.25	.192
.01	CW20A103K	.52	.25	.192
.012	CW20A123K	.52	.25	.192
.015	CW20A153K	.52	.25	.192
.018	CW20A183K	.52	.25	.192
.022	CW20A223K	.53	.32	.253
.027	CW20A273K	.53	.32	.253
.033	CW20A333K	.82	.51	.395
.039	CW30A393K	1.05	.65	.505
.047	CW30A473K	1.05	.65	.505
.056	CW30A563K	1.05	.65	.505
.068	CW30A683K	1.05	.65	.505
.082	CW30A823K	1.39	.85	.661
.1	CW30A104K	1.39	.85	.661
.15	CW40A154K	2.64	1.36	.787
.22	CW40A224K	2.64	1.36	.787
.33	CW50A334K	3.84	1.97	1.144
.47	CW50A474K	4.46	2.29	1.333
.56	CW50A564K	5.08	2.62	1.516

CY SERIES—GENERAL PURPOSE

EIA Temperature Characteristic: Y5V (General Purpose). **Temp vs Cap.:** +22%, −82% max. cap. change from +25° C readin over temp. range of −30° C to +85° C. **Dissipation Factor:** 2.5% max. at 1 kHz and +25° C. **Tolerance:** ±20% (suffix **M**); GM +100–0% (suffix **P**).

50 VDCW

470 pF	CY15C471M	$0.40	$0.17	$0.133
680	CY15C681M	.40	.17	.133
.001 μF	CY15C102M	.40	.17	.133
.0015	CY15C152M	.40	.17	.133
.0022	CY15C222M	.40	.17	.133
.0033	CY15C332M	.40	.17	.133
.0047	CY15C472M	.40	.17	.133
.0068	CY15C682M	.42	.17	.139
.01	CY15C103M	.40	.17	.133
.01	CY15C103P	.27	.14	.112
.015	CY15C153M	.40	.17	.133
.022	CY15C223M	.42	.17	.139
.033	CY15C333M	.42	.17	.139
.047	CY15C473M	.42	.17	.139
.068	CY15C683M	.42	.17	.139
.1	CY20C104M	.85	.35	.285
.1	CY20C104P	.57	.31	.239
.15	CY20C154M	.85	.35	.285
.22	CY20C224M	.85	.35	.285
.33	CY20C334M	.85	.35	.285
.47	CY20C474M	.85	.35	.285
1.0	CY30C105M	1.62	.88	.595
1.0	CY30C105P	1.07	.57	.448
1.5	CY30C155M	2.42	1.02	.804
2.2	CY30C225M	2.42	1.02	.804
3.3	CY40C335M	8.07	4.14	2.407
4.7	CY40C475M	10.54	5.42	3.146

100 VDCW

.0068 μF	CY15A682M	$0.42	$0.17	$0.139
.01	CY15A103M	.40	.17	.133
.01	CY15A103P	.27	.14	.112
.015	CY15A153M	.40	.17	.133
.022	CY15A223M	.42	.17	.139
.033	CY15A333M	.42	.17	.139
.047	CY20A473M	.85	.35	.285
.068	CY20A683M	.85	.35	.285
.1	CY20A104M	.85	.35	.285
.1	CY20A104P	.57	.31	.239
.15	CY20A154M	.85	.35	.285
.22	CY20A224M	.85	.35	.285
.33	CY30A334M	2.42	1.02	.804
.47	CY30A474M	2.42	1.02	.804
.68	CY30A684M	2.42	1.02	.804
1.0	CY30A105M	2.42	1.02	.804
1.5	CY40A155M	5.46	2.80	1.63
2.2	CY40A225M	8.85	4.56	2.643

*SIZE CHART

First two numbers of CRL No. indicate size code (e.g., CN15 = Size 15). Lead length, 1.25" min.

Size Code	Size, Inches Maximum Lgth.	Width	Thk.	Lead Spacing	AWG
15	.150	.150	.100	.100	26
20	.200	.200	.125	.100	24
30	.300	.300	.150	.200	24
40	.400	.400	.150	.200	24
50	.500	.500	.200	.400	22

CENTRALAB, INC.
A NORTH AMERICAN PHILIPS COMPANY

Ceramic Capacitors

LOW VOLTAGE CAPACITORS



Miniature ceramic capacitors designed to meet the demands for high capacity, low voltage applications in transistor circuits. Double durez insulation with high vacuum wax impregnation to withstand extreme temperature, humidity and vibration. Where size permits, capacitors are stamped with capacity and voltage.

TYPE UK ULTRA-KAP® (3 WVDC) TOL. GMV

Cap., μF	CRL No.	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 1000 10,000-24,000
.1	UK-104	$0.43	$0.22	$0.131	$0.095
.22	UK-224	.58	.30	.17	.125
.47	UK-474	.58	.30	.17	.125
1.0	UK-105	.74	.38	.217	.158
2.2	UK-225	1.27	.68	.38	.277

TYPE UK10 ULTRA-KAP (10 WVDC) TOL. +80, −20%

.05	UK10-503	$0.40	$0.21	$0.115	$0.084
.1	UK10-104	.45	.22	.132	.097
.2	UK10-204	.57	.28	.164	.119
.47	UK10-474	.96	.51	.285	.207

TYPE UK12 ULTRA-KAP (12 WVDC) TOL. ±20%

.05	UK12-503	$0.41	$0.21	$0.121	$0.088
.1	UK12-104	.48	.25	.14	.099
.2	UK12-204	.67	.35	.197	.141
.47	UK12-474	1.20	.65	.361	.262

TYPE UK16 ULTRA-KAP (16 WVDC) TOL. ±20%

.01	UK16-103	$0.40	$0.21	$0.115	$0.084
.022	UK16-223	.40	.21	.115	.084
.033	UK16-333	.40	.21	.115	.084
.05	UK16-503	.43	.22	.128	.092
.068	UK16-683	.45	.22	.132	.097
.1	UK16-104	.52	.28	.157	.113
.15	UK16-154	.62	.32	.186	.133
.2	UK16-204	.93	.49	.275	.20
.3	UK16-304	1.20	.65	.361	.262

TYPE UK20 ULTRA-KAP (20 WVDC) TOL. +80, −20%

.05	UK20-503	$0.45	$0.22	$0.132	$0.097
.1	UK20-104	.57	.28	.164	.119
.2	UK20-204	.95	.49	.284	.204

TYPE UK25 ULTRA-KAP (25 WVDC) TOL. ±20%

.01	UK25-103	$0.40	$0.21	$0.12	$0.085
.022	UK25-223	.40	.21	.12	.085
.033	UK25-333	.43	.22	.128	.092
.05	UK25-503	.45	.25	.135	.098
.068	UK25-683	.53	.28	.16	.116
.1	UK25-104	.62	.32	.186	.133
.15	UK25-154	.93	.49	.275	.20
.2	UK25-204	1.08	.57	.323	.235

TYPE UK50 ULTRA-KAP (50 WVDC) TOL. ±20%

.01	UK50-103	$0.41	$0.21	$0.121	$0.088
.015	UK50-153	.43	.22	.128	.092
.022	UK50-223	.53	.28	.16	.116
.033	UK50-333	.58	.30	.17	.125
.047	UK50-473	.62	.35	.189	.137
.05	UK50-503	.62	.35	.189	.137
.068	UK50-683	1.00	.54	.298	.216
.1	UK50-104	1.19	.63	.351	.256

TYPE CK DISC CAPACITORS (50 WVDC) TOL. +80, −20%

.005	CK-502	$0.24	$0.12	$0.069	$0.049
.01	CK-103	.27	.14	.076	.052
.02	CK-203	.37	.20	.106	.076
.025	CK-253	.39	.20	.11	.08
.03	CK-303	.41	.21	.117	.083
.05	CK-503	.52	.27	.154	.109
.1	CK-104	1.20	.62	.359	.265

TYPE DDA DISC CAPACITORS (75 WVDC) TOL. +80, −30%

.05	DDA-503	$0.54	$0.27	$0.156	$0.112
.1	DDA-104	1.25	.65	.373	.274

TYPE DDM DISC CAPACITORS (150 WVDC) TOL. +60, −40%

.005	DDM-502	$0.27	$0.14	$0.076	$0.052
.01	DDM-103	.29	.14	.082	.059
.02	DDM-203	.71	.36	.206	.148

TYPE DC DISC CAPACITORS (100 WVDC) TOLERANCE ±20%; $ = ±30%

Cap., μF	CRL No.	Net Each, Lots of 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 1000 10,000-24,000
.005	DC-502	$0.24	$0.13	$0.077	$0.051
.01	DC-103	.29	.15	.085	.059
.01	DC-103S	.28	.15	.083	.057
.02	DC-203	.41	.23	.129	.089
.025	DC-253	.45	.25	.139	.093
.03	DC-303	.48	.26	.145	.099
.05	DC-503	.58	.33	.176	.122
.1	DC-104	1.41	.77	.44	.307
.1	DC-104S	1.34	.74	.427	.297

DD CERAMIC DISC CAPACITORS

Ideal for bypass and non-critical coupling in electronic equipment having operating temperatures ranging from −55° C to +85° C where high capacity is required and control stability is secondary. Rated 1000 WVDC except: DD6-103, DD-104, DD-153, DD-203, DD-303, DD-403 and DD-503, which are 600 WVDC. **Tolerance:** ±10% unless otherwise noted.

Cap., pF	CRL Number	Dia., In.	Cap., pF	CRL Number	Dia., In.
3.3*	DD-3R3	.290	470	DD-471	.290
5	DD-050	.290	500	DD-501	.290
6	DD-060	.290	510	DD-511	.290
6.8	DD-6R8	.290	560	DD-561	.290
7.5	DD-7R5	.290	600	DD-601	.290
8	DD-080	.290	680	DD-681	.290
10	DD-100	.290	750	DD-751	.290
12	DD-120	.290	820	DD-821	.290
15	DD-150	.290	910	DD-911	.290
18	DD-180	.290	1000	DD-102	.385
20	DD-200	.290	1000†	DD-102G	.290
22	DD-220	.290	1200	DD-122	.385
24	DD-240	.290	1300	DD-132	.385
25	DD-250	.290	1500	DD-152	.385
27	DD-270	.290	1500†	DD-152G	.290
30	DD-300	.290	1600	DD-162	.385
33	DD-330	.290	1800	DD-182	.385
39	DD-390	.290	2000†	DD-202	.385
47	DD-470	.290	2200†	DD-222	.385
50	DD-500	.290	2500†	DD-252	.385
51	DD-510	.290	2700†	DD-272	.385
56	DD-560	.290	3000†	DD-302	.385
68	DD-680	.290	3300†	DD-332	.590
75	DD-750	.290	3900†	DD-392	.590
82	DD-820	.290	4000†	DD-402	.590
91	DD-910	.290	4300†	DD-432	.590
100	DD-101	.290	4700‡	DD-472	.590
120	DD-121	.290	5000‡	DD-502	.590
130	DD-131	.290	5000†	DD-5022	.590
150	DD-151	.290	5600†	DD-562	.590
180	DD-181	.290	6800†	DD-682	.590
200	DD-201	.290	7500†	DD-752	.590
220	DD-221	.290	8200†	DD-822	.690
240	DD-241	.290	10,000†	DD-103	.690
250	DD-251	.290	10,000‡	DD-1032	.690
270	DD-271	.290	10,000†	DD6-103	.590
300	DD-301	.290	15,000§	DD-153	.690
330	DD-331	.290	20,000§	DD-203	.690
350	DD-351	.290	30,000§	DD-303	.718
360	DD-361	.290	40,000§	DD-403	.718
390	DD-391	.290	50,000§	DD-503	.875
400	DD-401	.290	100,000§	DD-104	.975

DD INDUSTRIAL NET EACH PRICES

Values, pF	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 1000 10,000-24,000
3.3 thru 200	$0.20	$0.11	$0.061	$0.045
220 thru 910	.22	.11	.064	.045
1000	.24	.12	.069	.049
1000†	.22	.11	.063	.043
1200 thru 1300	.24	.12	.069	.049
1500	.24	.12	.069	.049
1500†	.22	.11	.063	.043
1600 thru 1800	.24	.12	.069	.049
2000 thru 3300	.24	.12	.072	.05
3900 thru 4700	.30	.15	.086	.063
5000‡	.30	.15	.086	.063
5000†	.37	.20	.103	.074
5600	.30	.15	.086	.063
6800 thru 8200	.37	.20	.106	.076
10,000‡	.54	.27	.156	.112
10,000†	.52	.26	.15	.108
10,000† (600V)	.37	.20	.106	.076
15,000§	.52	.27	.154	.109
20,000§	.54	.27	.163	.12
30,000§	1.32	.68	.396	.291
40,000§	1.39	.71	.409	.301
50,000§	1.45	.74	.436	.321
100,000§	1.96	1.01	.586	.43

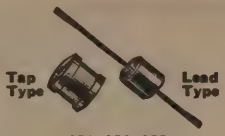
Tolerance: *±0.5 pF. †GMV. ‡±20%. §+80, −20%.

CENTRALAB, INC.
A NORTH AMERICAN PHILIPS COMPANY

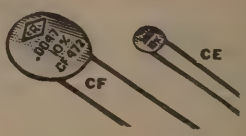
Ceramic Capacitors



850, 858



853, 854, 855



CERAMIC TRANSMITTING CAPACITORS

Designed for use in high voltage, high frequency circuits such as in transmitters, induction heaters, electronic welders, X-ray and diathermy equipment. Power factor extremely low. Stable retrace characteristics. "Double cup" design affords long leakage paths and mechanical ruggedness. **Note:** RF load figures shown are based on 30 MHz RF load and are typical characteristics, not specific ratings.

TYPE 850 AND 858—5 AND 7.5 kV

Stud type has ¼" long hex studs 6-32 thread. Size: 1⅜" dia. x ⅝". Tolerance: ±10% 850 type; ±20% 858 type.

Cap., pF	CRL No.	kV DCW	Temp. Coeff.	RF Load at 30 MHz
25	850S-25Z	7.5	NPO	7 amps
50	850S-50Z	7.5	NPO	10 amps
50	850S-50N	7.5	N750	8.8 amps
75	850S-75N	7.5	N750	10 amps
100	850S-100N	5	N750	9.8 amps
500	858S-500	5	Hi-K	.....
1K	858S-1000	5	Hi-K	.....

TYPE 853, 854, 855—5 kV

Lead type has 1⅓" axial leads. Tap type has axial screw terminals tapped 2-56. Size: 853, ⅓" dia. x ⅛". 854, ⅜" dia. x ⅜". 855, ¼" dia. x 1⅛"; A Series: Add ⅛" to dia., ¼" to lg. Tol.: ±10%.

Cap., pF	CRL No.		kV DCW	Temp. Coeff.	RF Load at 30 MHz
	Lead Type	Tap Type			
3	855-3Z	855A-3Z	5	NPO	1.8 amps
5	855-5Z	855A-5Z	5	NPO	1.8 amps
10	854-10Z	854A-10Z	5	NPO	1.8 amps
10	855-10N	.....	5	N750	3.2 amps
20	853-20Z	.....	5	NPO	2.8 amps
20	.....	854A-20N	5	N750	3.2 amps
40	853-40N	853A-40N	5	N750	5.6 amps

TYPE 857—7.5 AND 15 kV

Axial screw terminals at both ends; ¼" deep, 10-32 NF-2 thread. Size: 1⅝" dia. x 1⅞". Tolerance: ±10%.

Cap., pF	CRL No.	Temp. Coeff.	RF Load at 30 MHz	kV DCW
25	857-25Z	NPO	12 amps	15
50	857-50Z	NPO	12 amps	15
100	857-100N	N750	14.4 amps	15
200	857-200N	N750	18.2 amps	7.5

TYPE 859—15 AND 20 kV

Terminals ⅛" deep both ends, tapped 10-32. Size: 2" dia. x 2¼" overall. Tolerance: ±10%.

50	859S-50Z	NPO	30 amps	20
100	859S-100Z	NPO	30 amps	20
250	859S-250N	N750	30 amps	20
500	859S-500N	N3300	30 amps	15

TRANSMITTING CAPACITOR INDUSTRIAL NET EACH PRICES

CRL Type All Values	Pkg. of 1 1-99	Pkg. of 100 100 Up
850 w/suffix Z	$10.47	$ 7.99
850 w/suffix N	9.27	7.08
853	9.12	6.98
853A	10.34	7.02
854	8.62	6.58
854A	9.99	7.65
855	8.08	6.21
855A	9.00	6.88
857 w/suffix Z	35.00	26.80
857 w/suffix N	30.38	23.25
858	10.02	7.68
859	197.16	150.89

TYPES CE TEMPERATURE STABLE AND CF SEMI-STABLE DISC CAPACITORS

Offer exceptional stability through an extended temperature r for applications requiring low capacity change between − and +85° C temperatures. Rated 500 WVDC. Life test, hours at 1000 VDC at +85° C. Leakage resistance, 10,000 min. initial; 1000 megs, after humidity. Phenolic insulation va impregnated with high temperature wax. Power factor, 2% at 1 kHz. Leads #22 tinned copper, 1½" lg. minimum. Tole ±10%. Only .156" thick. Dia.: 150–470 pF, .290"; 500–80 .390"; 1000 pF, .590"; 1200–1800 pF, .390"; 2000–3900 pF, 4700–6200 pF, .690"; 8200 and 10K pF, .920".

Temperature Stable "K"						Temp. Semi-Stable "				
Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CE-	Cap. pF	No. CF-	Cap. pF	No. CF-	Cap pF
150	151	500	501	800	801	1200	122	2200	222	500
220	221	560	561	1000	102	1500	152	3300	332	620
330	331	680	681			1800	182	3900	392	820
470	471	750	751			2000	202	4700	472	10 K

CE INDUSTRIAL NET EACH PRICES

Values pF	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkg 10 10,0 24,
150 thru 1000	$0.22	$0.13	$0.072	$0.

CF INDUSTRIAL NET EACH PRICES

1200 thru 2200	$0.24	$0.13	$0.08	$0.
3300 thru 3900	.31	.16	.096	
4700 thru 5000	.38	.21	.13	
6200	.53	.31	.177	
8200 thru 10K	.62	.42	.251	

CENTRALAB CAPACITOR KIT



- Wide Assortment
- Popular Sizes
- Ready To Use

KIT-60D contains an assortment of the most widely used g purpose ceramic disc capacitors. 600 and 1000 VDCW ratt 40 different values from 5pf to .05μf. Housed in rugged steel cabinet with 15 high impact plastic drawers. Capacitors tionally arranged in clearly labeled drawers by voltage and Shipped set up and ready to use.

Cap.	Qty.	Type	Cap.	Qty.	Typ
5pf	5	DD-050	390pf	5	DD-3
10	5	DD-100	470	5	DD-4
15	5	DD-150	500	5	DD-5
20	5	DD-200	680	5	DD-6
22	5	DD-220	820	5	DD-8
25	5	DD-250	.001μf	15	DD-1
33	5	DD-330	.001	10	DD-1
47	5	DD-470	.0015	5	DD-1
50	5	DD-500	.002	10	DD-2
68	5	DD-680	.0022	5	DD-2
100	10	DD-101	.003	5	DD-3
120	5	DD-121	.0047	5	DD-4
150	5	DD-151	.005	5	DD-5
180	5	DD-181	.005	10	DD-5
200	10	DD-201	.0068	5	DD-6
220	5	DD-221	.01	5	DD-1
250	5	DD-251	.01	15	DD-1
270	5	DD-271	.01	5	DD6-1
300	5	DD-301	.02	5	DD-2
330	5	DD-331	.05	5	DD-5

Centralab KIT-60D—Net Each..... $6

Ceramic Capacitors

3000-6000 VOLT CAPACITORS

these units are highly efficient for bypass-coupling in high fre-ncy circuits under conditions of extreme humidity or tempera-e. Special phenolic insulation with triple, high temperature wax pregnation. Maintain high capacity and performance at 85° C. erance: ±20%.

apacity, pF	3000 Volt, DC Working		6000 Volt, DC Working	
	CRL No.	Dia.	CRL No.	Dia.
4.7	DD30-4R7	.320″	DD60-4R7	.650″
10	DD30-100	.320″	DD60-100	.650″
15	DD30-150	.320″	DD60-150	.650″
22	DD30-220	.320″	.....	.....
25	DD30-250	.320″	.....	.....
30	DD30-300	.330″	DD60-300	.650″
33	DD30-330	.330″	DD60-330	.650″
39	DD30-390	.330″	DD60-390	.650″
47	DD30-470	.330″	DD60-470	.650″
50	DD30-500	.330″	DD60-500	.650″
56	DD30-560	.330″	DD60-560	.650″
68	DD30-680	.330″	DD60-680	.660″
75	DD30-750	.330″	DD60-750	.660″
82	DD30-820	.330″	DD60-820	.660″
100	DD30-101	.330″	DD60-101	.660″
120	DD30-121	.330″	DD60-121	.660″
130	.....	.....	DD60-131	.660″
150	DD30-151	.330″	DD60-151	.660″
180	DD30-181	.330″	DD60-181	.660″
200	DD30-201	.330″	DD60-201	.660″
220	DD30-221	.330″	DD60-221	.660″
250	DD30-251	.330″	DD60-251	.660″
270	DD30-271	.330″	DD60-271	.660″
300	DD30-301	.330″	DD60-301	.660″
330	DD30-331	.330″	DD60-331	.660″
390	DD30-391	.330″	DD60-391	.660″
400	DD30-401	.330″	.....	.....
470	DD30-471	.330″	DD60-471	.660″
500	DD30-501	.330″	DD60-501	.660″
560	DD30-561	.330″	DD60-561	.660″
680	DD30-681	.330″	DD60-681	.660″
750	DD30-751	.330″	DD60-751	.660″
820	DD30-821	.430″	DD60-821	.660″
1000	DD30-102	.430″	DD60-102	.660″
1200	DD30-122	.430″	DD60-122	.660″
1500	DD30-152	.630″	DD60-152	.660″
2000	DD30-202	.630″	DD60-202	.760″
2200	DD30-222	.630″	DD60-222	.760″
2500	DD30-252	.630″	.....	.....
2700	DD30-272	.630″	.....	.....
3000	DD30-302	.630″	.....	.....
3300	DD30-332	.630″	.....	.....
3900	DD30-392	.730″	.....	.....
4700	DD30-472	.730″	.....	.....
5000	DD30-502	.800″	.....	.....

INDUSTRIAL NET EACH PRICES

Values, pF	Net Ea. 1-99	Pkg./ 100 100-900	Pkg./ 1000 1000-9000	Pkg./ 1000 10,000 Up
TYPE DD30 (3000 WVDC)				
4.7 thru 750	$0.60	$0.33	$0.185	$0.129
820 thru 1200	.64	.36	.199	.139
1500 thru 3300	.83	.46	.256	.179
3900 thru 4700	.95	.52	.293	.206
5000	1.03	.57	.322	.226
TYPE DD60 (6000 WVDC)				
4.7 thru 1500	$1.03	$0.57	$0.322	$0.226
2000 thru 2200	1.44	.79	.447	.312

TYPE DD16 BUFFERS

mpact, easy to install. Long life, low cost. Able to withstand h heat, moisture, and vibration. Thickness, 11/64″. Tolerance: IV. Rated 1600 WVDC.

p., F	CRL No.	Dia.	Net Ea. 1-99	Pkg./ 100 100-900	Pkg./ 1000 1000-9000	Pkg./ 1000 10,000-Up
3	DD16-302	.605″	$0.43	$0.25	$0.136	$0.094
4	DD16-402	.605″	.43	.25	.136	.094
5	DD16-502	.605″	.43	.25	.136	.094
6	DD16-602	.705″	.58	.33	.179	.124
7	DD16-702	.705″	.58	.33	.179	.124
75	DD16-752	.835″	.72	.39	.225	.156
8	DD16-802	.835″	.72	.39	.225	.156
	DD16-103	.835″	.72	.39	.225	.156
5	DD16-153*	.935″	1.15	.64	.36	.252

olerance, −20, +80%.

TYPE DD3 DUAL CAPACITORS

ree leads—two capacitors in the space formerly needed for one. eided to minimize stray capacities between discs. Rated 600 C, working; 1200 VDC, test. **Tolerance:** GMV. **Diameter:** D3-102, DD3-152, .391″; DD3-202, DD3-502, .593″; DD3-103, 9″.

alues, μF	CRL No.	Net Each 1-99	Pkgs. of 100 100-900	Pkgs. of 1000 1000-9000	Pkgs. of 1000 10,000-Up
x .001	DD3-102	$0.86	$0.48	$0.271	$0.189
x .0015	DD3-152	.86	.48	.271	.189
x .002	DD3-202	1.26	.67	.39	.272
x .005	DD3-502	1.26	.67	.39	.272
x .01	DD3-103	1.53	.85	.476	.332



GAP-KAP® CAPACITORS

Parallel capacitor-spark gap combination is useful in applications requiring by-pass of transient overvoltages. In color TV usage, a minimum capacitance Gap-Kap inserted between the grid lead and chassis ground provides a low impedance path to ground for transients of 1500 V and above. Leads are #20 tinned copper.

CRL No.	Cap.	Tolerance	Max. Dia.	Max. Ht.	Max. Thk.	Voltage Working	Voltage Arc
GAP-R75	.75 pF	Maximum	.440″	.620″	.250″	1 kV	1–2 kV
GAP-102	.001 μF	±20%	.420″	.545″	.195″	1 kV	2–3 kV
GAP-103	.01 μF	±200%	.705″	.855″	.195″	1.5 kV	2–3 kV
GAP-203	.02 μF	±20%	.935″	1.060″	.216″	1 kV	2–3 kV
GAP-402	.004 μF	±10%	.960″	1.110″	.216″	3 kV	4–6 kV

INDUSTRIAL PRICES

CRL No.	Net Ea. 1-99	Pkg./ 100 100-900	Pkg./ 1000 1000-9000	Pkg./ 1000 10,000-Up
GAP-R75	$0.28	$0.15	$0.082	$0.056
GAP-102	.40	.23	.123	.086
GAP-103	.72	.39	.219	.153
GAP-203	1.31	.72	.403	.282
GAP-402	1.31	.72	.403	.282

TEMPERATURE COMPENSATING DISCS

Replaces mica types in all applications. High stability, small size, using TC ceramic dielectric material. Type DTZ is NPO or zero TC disc type. Type DTN is N750TC type. Tol.: ±5% except (*), ±0.5 pF.

Cap., pF	CRL No.	Dia.	Thick-ness	Net Ea. 1-99	Pkg./ 100 100-900	Pkg./ 1000 1000-9000	Pkg./ 1000 10,000-24,000
TYPE DTN (N750)							
5	DTN-5*	.320″	.180″	$0.20	$0.11	$0.063	$0.046
10	DTN-10*	.290″	.156″	.20	.11	.063	.046
15	DTN-15	.290″	.156″	.20	.11	.063	.046
20	DTN-20	.290″	.156″	.20	.11	.063	.046
22	DTN-22	.290″	.156″	.20	.11	.063	.046
25	DTN-25	.290″	.156″	.20	.11	.063	.046
33	DTN-33	.290″	.156″	.20	.11	.063	.046
47	DTN-47	.290″	.156″	.20	.11	.063	.046
68	DTN-68	.390″	.156″	.24	.12	.074	.055
75	DTN-75	.390″	.156″	.24	.12	.074	.055
100	DTN-100	.390″	.156″	.24	.12	.074	.055
150	DTN-150	.590″	.156″	.32	.18	.097	.073
200	DTN-200	.590″	.156″	.41	.21	.12	.088
220	DTN-220	.590″	.156″	.41	.21	.12	.088
330	DTN-330	.690″	.156″	.61	.32	.179	.133
TYPE DTZ (NPO)							
1.5	DTZ-1R5*	.320″	.180″	$0.22	$0.11	$0.066	$0.048
2.2	DTZ-2R2*	.290″	.156″	.22	.11	.066	.048
3.3	DTZ-3R3*	.290″	.156″	.22	.11	.066	.048
4.7	DTZ-4R7*	.290″	.156″	.22	.11	.066	.048
6.8	DTZ-6R8*	.290″	.156″	.22	.11	.066	.048
10	DTZ-10	.290″	.156″	.22	.11	.066	.048
15	DTZ-15	.290″	.156″	.22	.11	.066	.048
20	DTZ-20	.290″	.156″	.22	.11	.066	.048
22	DTZ-22	.390″	.156″	.22	.11	.066	.048
25	DTZ-25	.390″	.156″	.24	.12	.07	.052
33	DTZ-33	.390″	.156″	.24	.12	.07	.052
47	DTZ-47	.590″	.156″	.30	.15	.093	.067
50	DTZ-50	.590″	.156″	.30	.15	.093	.067
68	DTZ-68	.590″	.156″	.30	.15	.093	.067
75	DTZ-75	.590″	.156″	.37	.20	.109	.08
82	DTZ-82	.590″	.156″	.37	.20	.109	.08
100	DTZ-100	.590″	.156″	.37	.20	.109	.08
120	DTZ-120	.690″	.156″	.54	.27	.166	.122
150	DTZ-150	.760″	.156″	.54	.27	.166	.122
180	DTZ-180	.760″	.156″	.61	.32	.179	.133
200	DTZ-200	.820″	.156″	.64	.33	.196	.144
220	DTZ-220	.920″	.156″	.91	.47	.272	.20
270	DTZ-270	.920″	.156″	.91	.47	.272	.20
TYPE DTX (N1500)							
100	DTX-101	.390″	.156″	$0.24	$0.12	$0.07	$0.052
120	DTX-121	.390″	.156″	.24	.12	.07	.052
150	DTX-151	.485″	.156″	.32	.15	.096	.071
180	DTX-181	.485″	.156″	.32	.15	.096	.071
200	DTX-201	.590″	.156″	.39	.21	.117	.087
220	DTX-221	.590″	.156″	.39	.21	.117	.087
330	DTX-331	.690″	.156″	.59	.32	.177	.132
390	DTX-391	.690″	.156″	.59	.32	.177	.132
470	DTX-471	.760″	.156″	.64	.33	.194	.141
500	DTX-501	.760″	.156″	.64	.33	.194	.141
560	DTX-561	.820″	.156″	.71	.36	.21	.154
620	DTX-621	.920″	.156″	.91	.47	.272	.20

SERIES CKR05/CKR06 CERAMIC CAPACITORS (TO MIL SPEC. MIL-C-39014, FAILURE LEVELS R* AND S*)

The CKR series capacitors serve as the industry standard for high reliability applications within the communications, computer and aerospace fields and also in a variety of other applications. **Dielectric Strength:** 250% of rated working voltage with 50 mA charging current. **Dissipation Factor:** 2.5% maximum. Tested at 1.0 volt rms ±0.2 volt rms at 1MHz for 100 pF and lower or 1 kHz for 100 pF and higher. **Insulation Resistance:** 100,000 megohms or 1000 megohm-microfarads, whichever is less. **Operating Temperature Range:** −55° C to +125° C.

Centralab Number*	MIL Type 39014/ 01-	Cap., pF	WV DC	Net Each, Lots of 1-99	100-999	1000-9999	10,000 Up
TYPE CKR05 (.19" w. x .19" h. x .09" th.)							
CKR05BX100KR	1281	10	200	$0.58	$0.54	$0.50	$0.45
CKR05BX100KS	1321	10	200	.67	.62	.57	.51
CKR05BX120KR	1283	12	200	.58	.54	.50	.45
CKR05BX120KS	1323	12	200	.67	.62	.57	.51
CKR05BX150KR	1284	15	200	.58	.54	.50	.45
CKR05BX150KS	1324	15	200	.67	.62	.57	.51
CKR05BX180KR	1286	18	200	.58	.54	.50	.45
CKR05BX180KS	1326	18	200	.67	.62	.57	.51
CKR05BX220KR	1287	22	200	.58	.54	.50	.45
CKR05BX220KS	1327	22	200	.67	.62	.57	.51
CKR05BX270KR	1289	27	200	.58	.54	.50	.45
CKR05BX270KS	1329	27	200	.67	.62	.57	.51
CKR05BX330KR	1290	33	200	.58	.54	.50	.45
CKR05BX330KS	1330	33	200	.67	.62	.57	.51
CKR05BX390KR	1292	39	200	.58	.54	.50	.45
CKR05BX390KS	1332	39	200	.67	.62	.57	.51
CKR05BX470KR	1293	47	200	.58	.54	.50	.45
CKR05BX470KS	1333	47	200	.67	.62	.57	.51
CKR05BX560KR	1295	56	200	.58	.54	.50	.45
CKR05BX560KS	1335	56	200	.67	.62	.57	.51
CKR05BX680KR	1296	68	200	.58	.54	.50	.45
CKR05BX680KS	1336	68	200	.67	.62	.57	.51
CKR05BX820KR	1298	82	200	.58	.54	.50	.45
CKR05BX820KS	1358	82	200	.67	.62	.57	.51
CKR05BX101KR	1299	100	200	.58	.54	.50	.45
CKR05BX101KS	1339	100	200	.67	.62	.57	.51
CKR05BX101MR	1300	100	200	.53	.49	.46	.41
CKR05BX101MS	1340	100	200	.62	.57	.53	.47
CKR05BX121KR	1301	120	200	.58	.54	.50	.45
CKR05BX121KS	1341	120	200	.67	.62	.57	.51
CKR05BX151KR	1302	150	200	.58	.54	.50	.45
CKR05BX151KS	1342	150	200	.67	.62	.57	.51
CKR05BX181KR	1304	180	200	.58	.54	.50	.45
CKR05BX181KS	1344	180	200	.67	.62	.57	.51
CKR05BX221KR	1305	220	200	.58	.54	.50	.45
CKR05BX221KS	1345	220	200	.67	.62	.57	.51
CKR05BX271KR	1307	270	200	.58	.54	.50	.45
CKR05BX271KS	1347	270	200	.67	.62	.57	.51
CKR05BX331KR	1308	330	200	.58	.54	.50	.45
CKR05BX331KS	1348	330	200	.67	.62	.57	.51
CKR05BX391KR	1310	390	200	.58	.54	.50	.45
CKR05BX391KS	1350	390	200	.67	.62	.57	.51
CKR05BX471KR	1311	470	200	.58	.54	.50	.45
CKR05BX471KS	1351	470	200	.67	.62	.57	.51
CKR05BX561KR	1313	560	200	.58	.54	.50	.45
CKR05BX561KS	1353	560	200	.67	.62	.57	.51
CKR05BX681KR	1314	680	200	.58	.54	.50	.45
CKR05BX681KS	1354	680	200	.67	.62	.57	.51
CKR05BX821KR	1316	820	200	.58	.54	.50	.45
CKR05BX821KS	1356	820	200	.67	.62	.57	.51
CKR05BX102KR	1317	1000	200	.58	.54	.50	.45
CKR05BX102KS	1357	1000	200	.67	.62	.57	.51
CKR05BX102MR	1318	1000	200	.53	.49	.46	.41
CKR05BX102MS	1358	1000	200	.62	.57	.53	.47
CKR05BX122KR	1319	1200	100	.65	.60	.56	.50
CKR05BX122KS	1359	1200	100	.73	.68	.63	.56
CKR05BX152KR	1320	1500	100	.65	.60	.56	.50
CKR05BX152KS	1360	1500	100	.73	.68	.63	.56
CKR05BX182KR	1522	1800	100	.65	.60	.56	.50
CKR05BX182KS	1562	1800	100	.73	.68	.63	.56
CKR05BX222KR	1523	2200	100	.65	.60	.56	.50
CKR05BX222KS	1563	2200	100	.73	.68	.63	.56
CKR05BX272KR	1525	2700	100	.65	.60	.56	.50
CKR05BX272KS	1565	2700	100	.73	.68	.63	.56
CKR05BX332KR	1526	3300	100	.65	.60	.56	.50
CKR05BX332KS	1566	3300	100	.73	.68	.63	.56
CKR05BX392KR	1528	3900	100	.65	.60	.56	.50
CKR05BX392KS	1568	3900	100	.73	.68	.63	.56
CKR05BX472KR	1529	4700	100	.65	.60	.56	.50
CKR05BX472KS	1569	4700	100	.73	.68	.63	.56
CKR05BX562KR	1531	5600	100	.65	.60	.56	.50
CKR05BX562KS	1571	5600	100	.73	.68	.63	.56
CKR05BX682KR	1532	6800	100	.67	.62	.57	.51
CKR05BX682KS	1572	6800	100	.75	.69	.64	.57
CKR05BX822KR	1534	8200	100	.67	.62	.57	.51
CKR05BX822KS	1574	8200	100	.75	.69	.64	.57
CKR05BX103KR	1535	10000	100	.67	.62	.57	.51
CKR05BX103KS	1575	10000	100	.75	.69	.64	.57
CKR05BX103MR	1536	10000	100	.60	.55	.51	.46
CKR05BX103MS	1576	10000	100	.68	.63	.59	.52
CKR05BX123KR	1537	12000	50	.80	.74	.69	.61
CKR05BX123KS	1577	12000	50	.89	.82	.76	.67
CKR05BX153KR	1538	15000	50	.80	.74	.69	.61
CKR05BX153KS	1578	15000	50	.89	.82	.76	.67
CKR05BX183KR	1540	18000	50	.80	.74	.69	.61
CKR05BX183KS	1580	18000	50	.89	.82	.76	.67
CKR05BX223KR	1541	22000	50	.80	.74	.69	.61
CKR05BX223KS	1581	22000	50	.89	.82	.76	.67
TYPE CKR05 (.19" w. x .19" h. x .09" th.) (CONT'D.)							
CKR05BX273KR	1543	27000	50	.80	.74	.69	.6
CKR05BX273KS	1583	27000	50	.89	.82	.76	.6
CKR05BX333KR	1544	33000	50	.84	.77	.72	.6
CKR05BX333KS	1584	33000	50	.92	.85	.79	.7
CKR05BX393KR	1546	39000	50	.84	.77	.72	.6
CKR05BX393KS	1586	39000	50	.92	.85	.79	.7
CKR05BX473KR	1547	47000	50	.84	.77	.72	.6
CKR05BX473KS	1587	47000	50	.92	.85	.79	.7
CKR05BX563KR	1549	56000	50	.90	.83	.77	.6
CKR05BX563KS	1589	56000	50	.99	.91	.84	.7
CKR05BX683KR	1550	68000	50	.90	.83	.77	.6
CKR05BX683KS	1590	68000	50	.99	.91	.84	.7
CKR05BX823KR	1552	82000	50	.94	.86	.80	.7
CKR05BX823KS	1592	82000	50	1.02	.94	.87	.7
CKR05BX104KR	1553	100000	50	.94	.86	.80	.7
CKR05BX104KS	1593	100000	50	1.02	.94	.87	.7
CKR05BX104MR	1554	100000	50	.84	.77	.72	.6
CKR05BX104MS	1594	100000	50	.92	.85	.79	.7
TYPE CKR06 TO MIL 39014/02 (.29" w. x .29" h. x .09" th.)							
CKR06BX122KR	1281	1200	200	$0.67	$0.62	$0.57	$0.5
CKR06BX122KS	1321	1200	200	.75	.69	.64	.5
CKR06BX152KR	1282	1500	200	.67	.62	.57	.5
CKR06BX152KS	1322	1500	200	.75	.69	.64	.5
CKR06BX182KR	1284	1800	200	.67	.62	.57	.5
CKR06BX182KS	1324	1800	200	.75	.69	.64	.5
CKR06BX222KR	1286	2200	200	.67	.62	.57	.5
CKR06BX222KS	1326	2200	200	.75	.69	.64	.5
CKR06BX272KR	1288	2700	200	.67	.62	.57	.5
CKR06BX272KS	1328	2700	200	.75	.69	.64	.5
CKR06BX332KR	1289	3300	200	.67	.62	.57	.5
CKR06BX332KS	1329	3300	200	.75	.69	.64	.5
CKR06BX392KR	1291	3900	200	.67	.62	.57	.5
CKR06BX392KS	1331	3900	200	.75	.69	.64	.5
CKR06BX472KR	1292	4700	200	.67	.62	.57	.5
CKR06BX472KS	1332	4700	200	.75	.69	.64	.5
CKR06BX562KR	1294	5600	200	.67	.62	.57	.5
CKR06BX562KS	1334	5600	200	.75	.69	.64	.5
CKR06BX682KR	1295	6800	200	.67	.62	.57	.5
CKR06BX682KS	1335	6800	200	.75	.69	.64	.5
CKR06BX822KR	1297	8200	200	.67	.62	.57	.5
CKR06BX822KS	1337	8200	200	.75	.69	.64	.5
CKR06BX103KR	1298	10000	200	.67	.62	.57	.5
CKR06BX103KS	1338	10000	200	.75	.69	.64	.5
CKR06BX103MR	1299	10000	200	.60	.55	.51	.4
CKR06BX103MS	1339	10000	200	.68	.63	.59	.5
CKR06BX123KR	1311	12000	100	.73	.68	.63	.5
CKR06BX123KS	1351	12000	100	.82	.75	.70	.6
CKR06BX153KR	1300	15000	100	.73	.68	.63	.5
CKR06BX153KS	1340	15000	100	.82	.75	.70	.6
CKR06BX183KR	1301	18000	100	.73	.68	.63	.5
CKR06BX183KS	1341	18000	100	.82	.75	.70	.6
CKR06BX223KR	1302	22000	100	.73	.68	.63	.5
CKR06BX223KS	1342	22000	100	.82	.75	.70	.6
CKR06BX273KR	1312	27000	100	.73	.68	.63	.5
CKR06BX273KS	1352	27000	100	.82	.75	.70	.6
CKR06BX333KR	1303	33000	100	.78	.72	.67	.6
CKR06BX333KS	1343	33000	100	.87	.80	.74	.6
CKR06BX393KR	1304	39000	100	.78	.72	.67	.6
CKR06BX393KS	1344	39000	100	.87	.80	.74	.6
CKR06BX473KR	1305	47000	100	.78	.72	.67	.6
CKR06BX473KS	1345	47000	100	.87	.80	.74	.6
CKR06BX563KR	1306	56000	100	.82	.75	.70	.6
CKR06BX563KS	1346	56000	100	.90	.83	.77	.6
CKR06BX683KR	1307	68000	100	.82	.75	.70	.6
CKR06BX683KS	1347	68000	100	.90	.83	.77	.6
CKR06BX823KR	1309	82000	100	.85	.79	.73	.6
CKR06BX823KS	1349	82000	100	.94	.86	.80	.7
CKR06BX104KR	1310	100000	100	.85	.79	.73	.6
CKR06BX104KS	1350	100000	100	.94	.86	.80	.7
CKR06BX124KR	1313	120000	50	1.24	1.14	1.06	.9
CKR06BX124KS	1353	120000	50	1.32	1.22	1.13	1.0
CKR06BX154KR	1314	150000	50	1.24	1.14	1.06	.9
CKR06BX154KS	1354	150000	50	1.32	1.22	1.13	1.0
CKR06BX184KR	1315	180000	50	1.39	1.28	1.19	1.0
CKR06BX184KS	1355	180000	50	1.47	1.36	1.26	1.1
CKR06BX224KR	1316	220000	50	1.39	1.28	1.19	1.0
CKR06BX224KS	1356	220000	50	1.47	1.36	1.26	1.1
CKR06BX274KR	1317	270000	50	1.72	1.59	1.47	1.3
CKR06BX274KS	1357	270000	50	1.80	1.66	1.54	1.3
CKR06BX334KR	1318	330000	50	1.72	1.59	1.47	1.3
CKR06BX334KS	1358	330000	50	1.80	1.66	1.54	1.3
CKR06BX394KR	1319	390000	50	2.27	2.09	1.94	1.7
CKR06BX394KS	1359	390000	50	2.35	2.17	2.02	1.7
CKR06BX474KR	1320	470000	50	2.27	2.09	1.94	1.7
CKR06BX474KS	1360	470000	50	2.35	2.17	2.02	1.7
CKR06BX564KR	1412	560000	50	2.82	2.60	2.42	2.1
CKR06BX564KS	1416	560000	50	2.91	2.68	2.49	2.2
CKR06BX684KR	1413	680000	50	2.82	2.60	2.42	2.1
CKR06BX684KS	1417	680000	50	2.91	2.68	2.49	2.2
CKR06BX824KR	1414	820000	50	3.26	3.00	2.79	2.4
CKR06BX824KS	1418	820000	50	3.34	3.08	2.86	2.5
CKR06BX105KR	1415	1000000	50	3.26	3.00	2.79	2.4
CKR06BX105KS	1419	1000000	50	3.34	3.08	2.86	2.5

*Last letter in part number denotes failure rate level; **R** = 0.01% **S** = 0.001%. Next-to-last letter in part number denoted capacitance tolerance; **K** = ±10%, **M** = ±20%.

SERIES CK05/CK06 CERAMIC CAPACITORS

The CK05/CK06 series of monolithic ceramic capacitors is qualified to MIL-C-11015 specifications. Ideal for general purpose bypass and coupling applications in telecommunications and instrumentation equipment and a wide variety of other applications. **Capacitance Tolerance:** K = ±10%, M = ±20%. **Dielectric Strength:** 250% of rated working voltage with 50 mA maximum charging current. **Dissipation Factor:** 2.5% maximum. **Insulation Resistance:** 100,000 megohms or 1000 megohm-microfarads, whichever is less. **Operating Temperature Range:** −55° C to +125° C.

Centralab Number	Cap., pF	WV DC	Net Each, Lots of 1-99	100-999	1000-9999	10,000 Up
TYPE CK05 (.19″ w. x .19″ h. x .09″ th.)						
CK05BX100K	10	200	$0.17	$0.15	$0.14	$0.13
CK05BX120K	12	200	.17	.15	.14	.13
CK05BX150K	15	200	.17	.15	.14	.13
CK05BX180K	18	200	.17	.15	.14	.13
CK05BX220K	22	200	.17	.15	.14	.13
CK05BX270K	27	200	.17	.15	.14	.13
CK05BX330K	33	200	.17	.15	.14	.13
CK05BX390K	39	200	.17	.15	.14	.13
CK05BX470K	47	200	.17	.15	.14	.13
CK05BX560K	56	200	.17	.15	.14	.13
CK05BX680K	68	200	.17	.15	.14	.13
CK05BX820K	82	200	.17	.15	.14	.13
CK05BX101K	100	200	.17	.15	.14	.13
CK05BX101M	100	200	.15	.14	.13	.11
CK05BX121K	120	200	.17	.15	.14	.13
CK05BX151K	150	200	.17	.15	.14	.13
CK05BX181K	180	200	.17	.15	.14	.13
CK05BX221K	220	200	.17	.15	.14	.13
CK05BX271K	270	200	.17	.15	.14	.13
CK05BX331K	330	200	.17	.15	.14	.13
CK05BX391K	390	200	.17	.15	.14	.13
CK05BX471K	470	200	.17	.15	.14	.13
CK05BX561K	560	200	.17	.15	.14	.13
CK05BX681K	680	200	.17	.15	.14	.13
CK05BX821K	820	200	.17	.15	.14	.13
CK05BX102K	1000	200	.17	.15	.14	.13
CK05BX102M	1000	200	.15	.14	.13	.11
CK05BX122K	1200	100	.23	.22	.20	.18
CK05BX152K	1500	100	.23	.22	.20	.18
CK05BX182K	1800	100	.23	.22	.20	.18
CK05BX222K	2200	100	.23	.22	.20	.18
CK05BX272K	2700	100	.23	.22	.20	.18
CK05BX332K	3300	100	.23	.22	.20	.18
CK05BX392K	3900	100	.23	.22	.20	.18
CK05BX472K	4700	100	.23	.22	.20	.18
CK05BX562K	5600	100	.23	.22	.20	.18
CK05BX682K	6800	100	.25	.23	.21	.19
CK05BX822K	8200	100	.25	.23	.21	.19
CK05BX103K	10000	100	.25	.23	.21	.19
CK05BX103M	10000	100	.22	.20	.19	.17
CK05BX123K	12000	50	.38	.35	.33	.29

Centralab Number	Cap., pF	WV DC	Net Each, Lots of 1-99	100-999	1000-9999	10,000 Up
TYPE CK05 (.19″ w. x .19″ h. x .09″ th.) (CONT'D.)						
CK05BX153K	15000	50	$0.38	$0.35	$0.33	$0.29
CK05BX183K	18000	50	.38	.35	.33	.29
CK05BX223K	22000	50	.38	.35	.33	.29
CK05BX273K	27000	50	.38	.35	.33	.29
CK05BX333K	33000	50	.42	.39	.36	.32
CK05BX393K	39000	50	.42	.39	.36	.32
CK05BX473K	47000	50	.42	.39	.36	.32
CK05BX563K	56000	50	.48	.45	.41	.37
CK05BX683K	68000	50	.48	.45	.41	.37
CK05BX823K	82000	50	.52	.48	.44	.39
CK05BX104K	100000	50	.52	.48	.44	.39
CK05BX104M	100000	50	.47	.43	.40	.36
TYPE CK06 (.29″ w. x .29″ h. x .09″ th.)						
CK06BX122K	1200	200	$0.27	$0.25	$0.23	$0.20
CK06BX152K	1500	200	.27	.25	.23	.20
CK06BX182K	1800	200	.27	.25	.23	.20
CK06BX222K	2200	200	.27	.25	.23	.20
CK06BX272K	2700	200	.27	.25	.23	.20
CK06BX332K	3300	200	.27	.25	.23	.20
CK06BX392K	3900	200	.27	.25	.23	.20
CK06BX472K	4700	200	.27	.25	.23	.20
CK06BX562K	5600	200	.27	.25	.23	.20
CK06BX682K	6800	200	.27	.25	.23	.20
CK06BX822K	8200	200	.27	.25	.23	.20
CK06BX103K	10000	200	.27	.25	.23	.20
CK06BX103M	10000	200	.23	.22	.20	.18
CK06BX123K	12000	100	.32	.29	.27	.24
CK06BX153K	15000	100	.32	.29	.27	.24
CK06BX183K	18000	100	.32	.29	.27	.24
CK06BX223K	22000	100	.32	.29	.27	.24
CK06BX273K	27000	100	.32	.29	.27	.24
CK06BX333K	33000	100	.37	.34	.31	.28
CK06BX393K	39000	100	.37	.34	.31	.28
CK06BX473K	47000	100	.37	.34	.31	.28
CK06BX563K	56000	100	.38	.35	.33	.29
CK06BX683K	68000	100	.38	.35	.33	.29
CK06BX823K	82000	100	.43	.40	.37	.33
CK06BX104K	100000	100	.43	.40	.37	.33
CK06BX104M	100000	100	.38	.35	.33	.29
CK06BX124K	120000	50	.82	.75	.70	.62
CK06BX154K	150000	50	.82	.75	.70	.62
CK06BX184K	180000	50	.97	.89	.83	.74
CK06BX224K	220000	50	.97	.89	.83	.74
CK06BX274K	270000	50	1.30	1.20	1.12	.99
CK06BX334K	330000	50	1.30	1.20	1.12	.99
CK06BX394K	390000	50	1.85	1.71	1.59	1.41
CK06BX474K	470000	50	1.85	1.71	1.59	1.41
CK06BX564K	560000	50	2.40	2.22	2.06	1.83
CK06BX684K	680000	50	2.40	2.22	2.06	1.83
CK06BX824K	820000	50	2.84	2.62	2.43	2.16
CK06BX105K	1000000	50	2.84	2.62	2.43	2.16
CK06BX105M	1000000	50	2.56	2.36	2.19	1.95

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

Boston Phone (617) 328-4600

TYPE WMF POLYESTER DIELECTRIC FILM-ENCASED CAPACITORS

Ultra-compact polyester dielectric in film wrap; thermosetting epoxy end seals. High resistance to humidity. Excellent stability.

Temp: −55° C to +85° C at full voltage: derate 10% at 100° 50% at 125° C. **Tol.:** ±10%. Other tolerances also availa prices on request.

CDE No. WMF	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-Up
05P1	.1	50	.250 x .812	$0.745	$0.447	$0.283	$0.239	$0.186
05P12	.12	50	.275 x .812	.759	.455	.289	.243	.191
05P15	.15	50	.285 x .812	.773	.463	.294	.247	.193
05P18	.18	50	.315 x .812	.787	.472	.299	.251	.198
05P22	.22	50	.330 x .812	.814	.489	.309	.261	.205
05P27	.27	50	.390 x .812	.925	.554	.352	.296	.232
05P33	.33	50	.400 x .812	1.063	.637	.405	.339	.267
05P39	.39	50	.375 x 1.062	1.221	.733	.463	.391	.305
05P47	.47	50	.375 x 1.062	1.415	.849	.538	.453	.353
05P5	.50	50	.395 x 1.062	1.463	.877	.557	.468	.366
05P56	.56	50	.450 x 1.062	1.642	.986	.623	.526	.412
05P68	.68	50	.490 x 1.062	1.708	1.025	.649	.546	.428
05P82	.82	50	.505 x 1.062	1.794	1.076	.682	.574	.449
05W1	1.0	50	.500 x 1.375	2.041	1.225	.776	.653	.511
05W2	2.0	50	.600 x 1.625	3.37	2.022	1.280	1.079	.842
05W3	3.0	50	.730 x 1.625	4.468	2.681	1.697	1.429	1.117
05W4	4.0	50	.760 x 1.875	5.560	3.336	2.113	1.779	1.390
05W5	5.0	50	.850 x 1.875	6.929	4.157	2.634	2.217	1.732
1D1	.001	100	.156 x .50	.600	.360	.228	.192	.151
1D12	.0012	100	.156 x .50	.600	.360	.228	.192	.151
1D15	.0015	100	.156 x .50	.600	.360	.228	.192	.151
1D18	.0018	100	.156 x .50	.600	.360	.228	.192	.151
1D22	.0022	100	.156 x .50	.600	.360	.228	.192	.151
1D27	.0027	100	.156 x .50	.600	.360	.228	.192	.151
1D33	.0033	100	.156 x .50	.600	.360	.228	.192	.151
1D39	.0039	100	.156 x .50	.600	.360	.228	.192	.151
1D47	.0047	100	.156 x .50	.600	.360	.228	.192	.151
1D50	.0050	100	.156 x .50	.600	.360	.228	.192	.151
1D56	.0056	100	.156 x .50	.600	.360	.228	.192	.151
1D68	.0068	100	.175 x .50	.600	.360	.228	.192	.151
1D82	.0082	100	.175 x .50	.600	.360	.228	.192	.151
1S1	.01	100	.200 x .50	.600	.360	.228	.192	.151
1S12	.012	100	.215 x .50	.600	.360	.228	.192	.151
1S15	.015	100	.235 x .50	.600	.360	.228	.192	.151
1S18	.018	100	.255 x .50	.600	.360	.228	.192	.151
1S22	.022	100	.275 x .625	.600	.360	.228	.192	.151
1S27	.027	100	.300 x .625	.600	.360	.228	.192	.151
1S33	.033	100	.300 x .625	.600	.360	.228	.192	.151
1S39	.039	100	.245 x .75	.600	.360	.228	.192	.151
1S47	.047	100	.265 x .75	.614	.368	.233	.196	.153
1S50	.050	100	.270 x .75	.621	.373	.236	.199	.156
1S56	.056	100	.270 x .75	.635	.381	.242	.202	.159
1S68	.068	100	.280 x .75	.649	.389	.247	.207	.163
1S82	.082	100	.270 x .875	.662	.398	.251	.213	.166
1P1	.1	100	.290 x .875	.676	.406	.256	.216	.170
1P12	.12	100	.315 x .875	.690	.414	.262	.221	.173
1P15	.15	100	.335 x .875	.704	.422	.268	.225	.177
1P18	.18	100	.350 x 1.0	.718	.430	.274	.229	.179
1P22	.22	100	.385 x 1.0	.738	.443	.281	.236	.185
1P27	.27	100	.380 x 1.125	.842	.505	.320	.269	.212
1P33	.33	100	.415 x 1.125	.966	.580	.367	.309	.242
1P39	.39	100	.460 x 1.125	1.111	.667	.422	.357	.277
1P47	.47	100	.475 x 1.125	1.283	.771	.488	.412	.322
1P5	.50	100	.495 x 1.25	1.352	.812	.513	.434	.338
1P56	.56	100	.520 x 1.25	1.490	.895	.566	.477	.373
1P68	.68	100	.570 x 1.25	1.691	1.014	.643	.541	.422
1P82	.82	100	.585 x 1.375	1.794	1.076	.682	.574	.449
1W1	1.0	100	.625 x 1.50	1.857	1.114	.706	.595	.465
1W1P25	1.25	100	.690 x 1.50	2.151	1.290	.818	.688	.538
1W1P5	1.5	100	.715 x 1.625	2.927	1.756	1.112	.936	.731
1W2	2.0	100	.800 x 1.625	3.255	1.953	1.236	1.042	.814
1W3	3.0	100	1.100 x 2.312	4.060	2.436	1.542	1.300	1.015
1W4	4.0	100	1.250 x 2.50	5.054	3.033	1.921	1.617	1.264
2D1	.001	200	.156 x .50	.600	.360	.228	.192	.151
2D15	.0015	200	.156 x .50	.600	.360	.228	.192	.151

CDE No. WMF	Cap., µF	WV DC	Size, In. Dia. x Lg.	Net Each, Lots of 1-24	25-99	100-499	500-999	10 U
2D22	.0022	200	.156 x .50	$0.600	$0.360	$0.228	$0.192	$0.
2D33	.0033	200	.160 x .50	.600	.360	.228	.192	.
2D47	.0047	200	.170 x .50	.600	.360	.228	.192	.
2D68	.0068	200	.200 x .50	.600	.360	.228	.192	.
2S1	.01	200	.230 x .50	.600	.360	.228	.192	.
2S15	.015	200	.290 x .50	.600	.360	.228	.192	.
2S22	.022	200	.275 x .625	.600	.360	.228	.192	.
2S33	.033	200	.270 x .75	.635	.381	.242	.202	.
2S47	.047	200	.320 x .75	.662	.398	.251	.213	.
2S68	.068	200	.350 x .75	.690	.414	.262	.221	.
2P1	.1	200	.410 x .875	.794	.476	.302	.254	.
2P15	.15	200	.500 x .875	.897	.538	.340	.288	.
2P22	.22	200	.500 x 1.125	1.118	.670	.426	.358	.
2P33	.33	200	.550 x 1.125	1.394	.836	.530	.446	.
2P47	.47	200	.600 x 1.25	1.691	1.014	.643	.541	.
2P68	.68	200	.650 x 1.625	2.415	1.449	.918	.773	.
2W1	1.0	200	.750 x 1.75	3.059	1.835	1.163	.979	.
2W1P25	1.25	200	.825 x 1.75	3.255	1.953	1.236	1.042	.
2W1P5	1.5	200	.900 x 1.75	3.611	2.167	1.372	1.156	.
2W2	2.0	200	.980 x 1.875	4.146	2.487	1.576	1.327	1.
4D1	.001	400	.156 x .625	.669	.401	.254	.214	.
4D15	.0015	400	.156 x .625	.669	.401	.254	.214	.
4D22	.0022	400	.156 x .625	.669	.401	.254	.214	.
4D33	.0033	400	.190 x .625	.669	.401	.254	.214	.
4D47	.0047	400	.200 x .625	.669	.401	.254	.214	.
4D68	.0068	400	.250 x .625	.669	.401	.254	.214	.
4S1	.01	400	.300 x .625	.669	.401	.254	.214	.
4S15	.015	400	.360 x .625	.669	.401	.254	.214	.
4S22	.022	400	.320 x .75	.676	.406	.256	.216	.
4S33	.033	400	.350 x .875	.704	.422	.268	.225	.
4S47	.047	400	.400 x .875	.780	.468	.297	.250	.
4S68	.068	400	.390 x 1.0	.863	.518	.329	.276	.
4P1	.1	400	.465 x 1.0	1.152	.691	.437	.368	.
4P15	.15	400	.515 x 1.25	1.449	.869	.551	.463	.
4P22	.22	400	.565 x 1.375	1.616	.969	.614	.518	.
4P33	.33	400	.600 x 1.625	1.978	1.187	.752	.633	.
4P47	.47	400	.700 x 1.625	2.300	1.380	.874	.736	.
4P68	.68	400	.790 x 1.75	2.921	1.753	1.110	.935	.
4W1	1.0	400	.875 x 2.0	3.703	2.222	1.408	1.185	.
4W1P25	1.25	400	.950 x 2.0	3.933	2.360	1.495	1.258	.
4W1P5	1.5	400	.975 x 2.25	4.175	2.505	1.586	1.336	1.
4W2	2.0	400	1.250 x 2.25	6.624	3.974	2.517	2.119	1.
6D1	.001	600	.170 x .75	.766	.460	.291	.246	.
6D15	.0015	600	.170 x .75	.766	.460	.291	.246	.
6D22	.0022	600	.187 x .75	.766	.460	.291	.246	.
6D33	.0033	600	.203 x .75	.766	.460	.291	.246	.
6D47	.0047	600	.234 x .75	.766	.460	.291	.246	.
6D68	.0068	600	.265 x .75	.766	.460	.291	.246	.
6S1	.01	600	.290 x .75	.814	.489	.309	.261	.
6S15	.015	600	.312 x .875	.973	.584	.370	.312	.
6S22	.022	600	.335 x .875	1.235	.741	.469	.394	.
6S33	.033	600	.350 x 1.0	1.497	.898	.568	.478	.
6S47	.047	600	.415 x 1.0	1.616	.969	.614	.518	.
6S68	.068	600	.500 x 1.0	1.696	1.018	.645	.543	.
6P1	.1	600	.520 x 1.375	1.915	1.149	.728	.613	.
6P15	.15	600	.625 x 1.375	2.151	1.290	.818	.688	.
6P22	.22	600	.660 x 1.625	2.415	1.449	.918	.773	.
6P33	.33	600	.687 x 2.0	2.714	1.628	1.032	.868	.
6P47	.47	600	.855 x 2.0	3.678	2.207	1.398	1.178	.
6P68	.68	600	.970 x 2.0	4.595	2.758	1.746	1.471	1.
6W1	1.0	600	1.165 x 2.50	6.893	3.307	2.095	1.764	1.
6W1P25	1.5	600	1.275 x 3.0	5.948	3.568	2.261	1.903	1.
6W2	2.0	600	1.460 x 3.0	9.011	5.407	3.424	2.884	2.

*Larger Quantity Prices on Request

WE CAN SUPPLY ALL YOUR REQUIREMENTS

FOR INDUSTRIAL ELECTRONIC PARTS AND EQUIPMENT.

WE OFFER COMPLETE BROAD LINE, IN-DEPTH INVENTORIES FOR INDUSTRIAL QUANTITY CONVENIENCE, PLUS FAST DELIVERY.

AS NEW PRODUCTS ARE DEVELOPED, WE WILL HAVE THEM AVAILABLE.

CALL OR WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

JOHNSON Air Variable Capacitors

Sub-miniature air variable capacitors are available in a variety of sizes, mounting configurations and section types. Rotors and stators are precision machined from one piece of solid brass for outstanding stability, uniformity and freedom from moisture entrapment. Offer high Q, typically 2000 at 150 MHz; exceptionally low temperature coefficient: Type T plus 30 ±15 ppm/° C; Type V plus 45 ±15 ppm/° C. Silver-plated metal parts. Type T ceramic is 95% alumina grade L-624 or better; type V ceramic is steatite grade L-423 or better.

TYPE "T" AIR VARIABLE CAPACITORS

Designed to meet or exceed EIA-RS 2-4 and MIL-STD.202C methods 204A and 201A. Offer excellent retrace characteristics. **Temperature Coefficient:** +30 ±15 ppm/° C.

VERTICALLY TUNED

PC MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0103-005	5.4	1.3	.36	$1.26
187-0106-005	11.0	1.7	.47	1.26
187-0109-005	15.7	1.9	.58	1.26

STRIPLINE MOUNT

187-0103-175	5.4	1.3	.36	$1.62
187-0106-175	11.0	1.7	.47	1.62
187-0109-175	15.7	1.9	.58	1.62

HORIZONTALLY TUNED

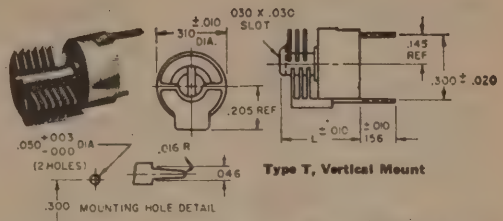
PC MOUNT

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Length, Inches	Net Each
187-0303-105	5.4	1.3	.36	$1.62
187-0306-105	11.0	1.7	.47	1.70
187-0309-105	15.7	1.9	.58	1.74

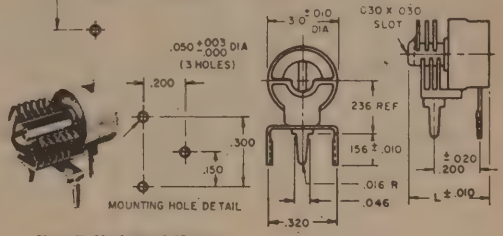
STRIPLINE MOUNT

187-0103-165	5.4	1.3	.36	$1.74
187-0106-165	11.0	1.7	.47	1.74
187-0109-165	15.7	1.9	.58	1.74

NOTE: Type "T" air variable capacitors are also available with minimum of 4 plates to maximum of 20 plates on special orders.



Type T, Vertical Mount



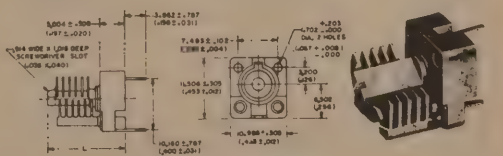
Type T, Horizontal Mount

TYPE "U" CAPACITORS

Temperature Coefficient: +45 ±15 ppm/° C. Silver plated metal parts. Steatite grade L-423 or better. **Air Gap:** .010".

TWO-HOLE MOUNTING—SINGLE SECTION

E. F. Johnson Number	Nominal pF Max.	Nominal pF Min.	Plates	Length ± 1/32"	Net Each
189-0501-004	4.2	1.2	4	27/64"	$1.75
189-0502-004	6.7	1.3	6	15/32"	1.75
189-0503-004	9.2	1.4	8	33/64"	1.75
189-0504-004	11.6	1.5	10	9/16"	1.75
189-0505-004	14.1	1.7	12	39/64"	1.75
189-0506-004	16.7	1.8	14	43/64"	1.75
189-0507-004*	19.3	2.0	16	23/32"	1.75
189-0508-004*	21.9	2.2	18	49/64"	1.75
189-0509-004*	24.5	2.4	20	13/16"	1.75



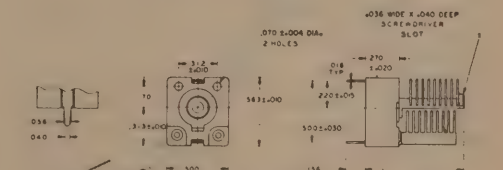
Type U, 2-Hole Mount

Type U, PC Mount

PRINTED CIRCUIT MOUNTING—VERTICAL TYPE

189-0501-005	4.2	1.2	4	27/64"	$1.65
189-0502-005	6.7	1.3	6	15/32"	1.65
189-0503-005	9.2	1.4	8	33/64"	1.65
189-0504-005	11.6	1.5	10	9/16"	1.65
189-0505-005	14.1	1.7	12	39/64"	1.65
189-0506-005	16.7	1.8	14	43/64"	1.65
189-0507-005*	19.3	2.0	16	23/32"	1.65
189-0508-005*	21.9	2.2	18	49/64"	1.65
189-0509-005*	24.5	2.4	20	13/16"	1.65

*Peak withstanding voltage, 500 volts; all others, 650 volts.



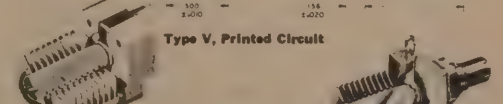
Type V, Printed Circuit

TYPE "V" CAPACITORS

High capacity in small space. Exceptionally uniform delta C and voltage characteristics. High torque, 2.5 to 10 oz.-in. Slotted rotor or shaft extension for convenient adjustment. **Air Gap:** .010". **Peak Voltage Breakdown:** 650 volts.

PRINTED CIRCUIT TYPES—SINGLE SECTION

E. F. Johnson No.	Nominal Cap. pF per sec Max.	Nominal Cap. pF per sec Min.	Plates per Section	L. ± 1/32"	Net Each
193-0004-005	13	1.4	8	37/64"	$3.00
193-0006-005	20	1.7	12	11/16"	3.00
193-0008-005	27	2.0	16	25/32"	3.00
193-0010-005	34	2.2	20	57/64"	3.00



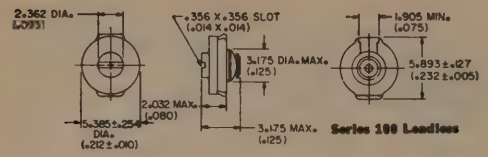
Type V, Panel Mount

PANEL MOUNT TYPES—SINGLE SECTION

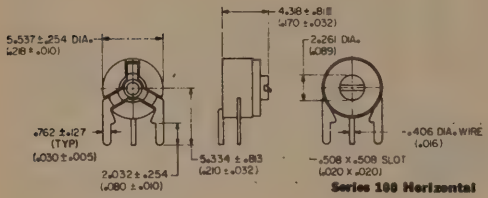
193-0004-001	13	1.4	8	35/64"	$3.63
193-0006-001	20	1.7	12	21/32"	3.63
193-0008-001	27	2.0	16	3/4"	3.63
193-0010-001	34	2.2	20	55/64"	3.63

Capacitors with 0.016" air gap available on special order.

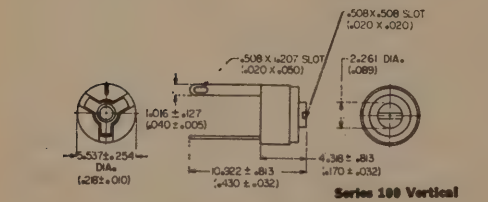
JOHNSON® Ceramic Disc Trimmers



Series 100 Leadless

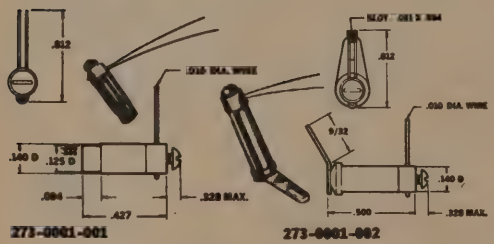


Series 100 Horizontal



Series 100 Vertical





273-0001-001 273-0001-002

SERIES 100 SUBMINIATURE CERAMIC DISC TRIMMERS

Subminiature ceramic disc trimmer exhibits extreme environmental stability and long life due to encapsulation of rotor plate in titanate. Stator is high alumina for lower loss and higher strength. Smooth linear tuning is realized by precision lapping of bearing surfaces. Designed to meet or exceed performance criteria of MIL-C-81B. **Operating Temperature:** −55° C to +125° C. NPO temperature characteristics. **Type A Working Voltage:** 100 VDC up to 85° C; 50 VDC up to 125° C. Peak with standing voltage is greater than twice the working voltage.

E. F. Johnson Number	Mounting	Nominal pF Max.	Nominal pF Min.	Net Each
274-0009-005	PC vertical	9.0	2.5	$2.28
274-0020-005	PC vertical	20.0	3.5	2.28
274-0025-005	PC vertical	25.0	5.0	2.28
274-0009-105	PC horizontal	9.0	2.5	2.48
274-0020-105	PC horizontal	20.0	3.5	2.48
274-0025-105	PC horizontal	25.0	5.0	2.48

MINIATURE TEFLON® DIELECTRIC TRIMMER CAPACITORS

Ideally suited for VHF and UHF applications requiring low minimum capacity and delta C. Provide high resolution and electrical stability. Linear tuning; high Q, 2000 at 150 MHz typically; insulation resistance, 10^6 megohms; temperature range, −55° C to +150° C. High resistance to shock and vibration. Gold metal parts and Teflon insulation. **Torque:** 0.2 to 3.0 oz.-in. **Voltage Breakdown:** 2,000 volts. **Adjustment:** 80 turns per inch.

®Registered DuPont trademark

E. F. Johnson Number	Mounting	Nom. pF max.	Cap per sec min.	Net Each
273-0001-001	PC	1.5	0.25	$0.84
273-0001-002	Solder lug	1.5	0.25	1.62

SEE CATALOG INDEX FOR OTHER E. F. JOHNSON PRODUCTS LISTED

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY, JUST USE THE MANUFACTURER'S MODEL NUMBERS.

TYPE 418P ORANGE DROP® FILMITE® "E" CAPACITORS

Ideal for TV, radio and allied commercial equipment. Type 418P combines excellent electrical characteristics, compactness and low cost. "Hockeystick" crimped radial lead design for easy insertion on PC wiring boards. Wound with polyester film and thin gage foil; protected against moisture by wax-free conformal coating of epoxy. Designed for operation at temperatures at 85° C and may be operated to 125° C with voltage derating. Capacitance tolerance, ±10%.



Sprague Number 418P-	µF	WV DC	Case Size Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
1391JD3	.033	100	.400 x .700	$.336	$0.143	$0.134	$0.126
1391JD3	.039	100	.400 x .700	.372	.158	.149	.140
1391JD3	.047	100	.400 x .700	.372	.158	.149	.140
1391JD3	.056	100	.400 x .700	.388	.165	.155	.146
1391JD3	.068	100	.400 x .700	.388	.165	.155	.146
1391KD3	.082	100	.400 x .900	.432	.184	.173	.162
1491KD3	.10	100	.400 x .900	.432	.184	.173	.162
1491KD3	.12	100	.450 x .900	.480	.204	.192	.180
1491KD3	.15	100	.450 x .900	.480	.204	.192	.180
1491LD3	.18	100	.450 x 1.200	.552	.235	.221	.207
1491LD3	.22	100	.450 x 1.200	.552	.235	.221	.207
1491LD3	.27	100	.500 x 1.200	.608	.258	.243	.228
1491LD3	.33	100	.500 x 1.200	.608	.258	.243	.228
1491MD3	.39	100	.550 x 1.600	.848	.360	.339	.318
1491MD3	.47	100	.550 x 1.600	.848	.360	.339	.318
1491MD3	.56	100	.650 x 1.600	.960	.408	.384	.360
1491MD3	.68	100	.650 x 1.600	.960	.408	.384	.360
1491MD3	.82	100	.700 x 1.600	1.352	.575	.541	.507
1591MD3	1.0	100	.700 x 1.600	1.352	.575	.541	.507
1392JD3	.018	200	.400 x .700	.336	.143	.134	.126
1392JD3	.022	200	.400 x .700	.336	.143	.134	.126
1392JD3	.027	200	.400 x .700	.368	.156	.147	.138
1392KD3	.033	200	.400 x .900	.372	.158	.149	.140
1392KD3	.039	200	.400 x .900	.408	.173	.163	.153
1392KD3	.047	200	.400 x .900	.408	.173	.163	.153
1392LD3	.056	200	.400 x 1.200	.432	.184	.173	.162
1392LD3	.068	200	.400 x 1.200	.432	.184	.173	.162
1392LD3	.082	200	.450 x 1.200	.480	.204	.192	.180
1492LD3	.10	200	.450 x 1.200	.480	.204	.192	.180
1492LD3	.12	200	.500 x 1.200	.556	.236	.222	.209
1492LD3	.15	200	.500 x 1.200	.556	.236	.222	.209
1492LD3	.18	200	.550 x 1.200	.608	.258	.243	.228
1492LD3	.22	200	.550 x 1.200	.608	.258	.243	.228
1492MD3	.27	200	.500 x 1.600	.796	.338	.318	.299
1492MD3	.33	200	.500 x 1.600	.796	.338	.318	.299
1492MD3	.39	200	.550 x 1.600	.960	.408	.384	.360
1492MD3	.47	200	.550 x 1.600	1.068	.454	.427	.401
1294JD3	.0082	400	.400 x .700	.336	.143	.134	.126
1394JD3	.010	400	.400 x .700	.336	.143	.134	.126
1394JD3	.012	400	.400 x .700	.336	.143	.134	.126
1394JD3	.015	400	.400 x .700	.336	.143	.134	.126
1394KD3	.018	400	.400 x .900	.372	.158	.149	.140
1394KD3	.022	400	.400 x .900	.372	.158	.149	.140
1394KD3	.027	400	.400 x .900	.408	.173	.163	.153

Sprague Number 418P-	µF	WV DC	Case Size Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
33394KD3	.033	400	.400 x .900	$.408	$0.173	$0.163	$0.153
39394LD3	.039	400	.450 x 1.200	.444	.189	.178	.167
47394LD3	.047	400	.450 x 1.200	.444	.189	.178	.167
56394LD3	.056	400	.500 x 1.200	.480	.204	.192	.180
68394LD3	.068	400	.500 x 1.200	.480	.204	.192	.180
82394LD3	.082	400	.550 x 1.200	.552	.235	.221	.207
10494LD3	.10	400	.550 x 1.200	.552	.235	.221	.207
12494LD3	.12	400	.600 x 1.200	.608	.258	.243	.228
15494LD3	.15	400	.600 x 1.200	.608	.258	.243	.228
18494MD3	.18	400	.600 x 1.600	.848	.360	.339	.318
22494MD3	.22	400	.600 x 1.600	.848	.360	.339	.318
27494MD3	.27	400	.650 x 1.600	.960	.408	.384	.360
33494MD3	.33	400	.650 x 1.600	.960	.408	.384	.360
39494MD3	.39	400	.720 x 1.600	1.352	.575	.541	.507
47494MD3	.47	400	.720 x 1.600	1.352	.575	.541	.507
10296JD3	.0010	600	.400 x .700	.324	.138	.130	.122
12296JD3	.0012	600	.400 x .700	.324	.138	.130	.122
15296JD3	.0015	600	.400 x .700	.324	.138	.130	.122
18296JD3	.0018	600	.400 x .700	.324	.138	.130	.122
22296JD3	.0022	600	.400 x .700	.324	.138	.130	.122
27296JD3	.0027	600	.400 x .700	.324	.138	.130	.122
33296JD3	.0033	600	.400 x .700	.324	.138	.130	.122
39296JD3	.0039	600	.400 x .700	.348	.148	.139	.131
47296JD3	.0047	600	.400 x .700	.348	.148	.139	.131
56296JD3	.0056	600	.400 x .700	.348	.148	.139	.131
68296JD3	.0068	600	.400 x .700	.348	.148	.139	.131
82296KD3	.0082	600	.400 x .900	.380	.162	.152	.143
10396KD3	.010	600	.400 x .900	.380	.162	.152	.143
12396KD3	.012	600	.400 x .900	.400	.170	.160	.150
15396KD3	.015	600	.400 x .900	.400	.170	.160	.150
18396KD3	.018	600	.450 x .900	.444	.189	.178	.167
22396KD3	.022	600	.450 x .900	.444	.189	.178	.167
27396LD3	.027	600	.450 x 1.200	.492	.209	.197	.185
33396LD3	.033	600	.450 x 1.200	.492	.209	.197	.185
39396LD3	.039	600	.550 x 1.200	.580	.247	.232	.218
47396LD3	.047	600	.550 x 1.200	.580	.247	.232	.218
56396LD3	.056	600	.600 x 1.200	.636	.270	.254	.239
68396LD3	.068	600	.600 x 1.200	.636	.270	.254	.239
82396LD3	.082	600	.650 x 1.200	.692	.294	.277	.260
10496LD3	.10	600	.650 x 1.200	.692	.294	.277	.260
12496MD3	.12	600	.700 x 1.600	.992	.422	.397	.372
15496MD3	.15	600	.700 x 1.600	.992	.422	.397	.372
18496MD3	.18	600	.800 x 1.600	1.40	.595	.560	.525
22496MD3	.22	600	.800 x 1.600	1.40	.595	.560	.525

*1-24, Kleer-Pak; all others Bulk-Pack. 250-499, 500-999 Bulk-Pack prices on request.

TYPE 502D VERTI-LYTIC® MINIATURE ELECTROLYTICS

For space-saving vertical installations on high-density printed wiring boards. Welds at all critical anode and cathode terminations. Metal encased with thermoplastic insulating sleeve. .200" lead spacing. **Operating Temperature:** —20° C to 85° C. **Size** (Last four digits of type no. indicate size, Dia"/L"): **BB1C**—.335/.531; **CC1C**—.413/.577; **CD1C**—.413/.669; **CE1C**—.413/.827; **CG1C**—.413/.827; **DG1C**—.531/.827; **DK1C**—.531/1.024.



Sprague Number 502D-	WVDC, VDC Surge	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100-249
7G6R3BB1C	6.3, 8	100	$0.928	$0.497	$0.442	$0.332
7G6R3CD1C	6.3, 8	330	1.016	.545	.484	.363
7G6R3CG1C	6.3, 8	470	1.042	.558	.496	.372
7G6R3DG1C	6.3, 8	680	1.109	.594	.528	.396
8G6R3DK1C	6.3, 8	1000	1.184	.635	.564	.423
8G6R3EU1C	6.3, 8	3300	2.365	1.267	1.126	.845
6G010BB1C	10, 13	68	.928	.497	.442	.332
7G010CC1C	10, 13	150	1.000	.536	.476	.357
7G010CG1C	10, 13	330	1.042	.558	.496	.372
8G010EK1C	10, 13	1500	1.432	.767	.682	.512
6G016BB1C	16, 20	47	.928	.497	.442	.332
7G016CC1C	16, 20	100	1.000	.536	.476	.357
7G016CD1C	16, 20	150	1.016	.545	.484	.363
7G016CG1C	16, 20	220	1.042	.558	.496	.372
7G016CG1C	16, 20	330	1.042	.558	.496	.372
7G016DG1C	16, 20	470	1.109	.594	.528	.396
7G016DK1C	16, 20	680	1.184	.635	.564	.423
8G016EK1C	16, 20	1000	1.432	.767	.682	.512
8G016EU1C	16, 20	2200	2.365	1.267	1.126	.845
6G025BB1C	25, 35	15	.928	.497	.442	.332
6G025BB1C	25, 35	22	.928	.497	.442	.332
6G025BB1C	25, 35	33	.928	.497	.442	.332
7G035CG1C	35, 44	100	1.042	.558	.496	.372
7G025DK1C	25, 35	470	1.184	.635	.564	.423
8G025EU1C	25, 35	1500	2.365	1.267	1.126	.845
7G035CG1C	35, 44	150	1.042	.558	.496	.372
7G035DG1C	35, 44	220	1.109	.594	.528	.396
7G035DK1C	35, 44	330	1.184	.635	.564	.423
7G035EG1C	35, 44	470	1.361	.729	.648	.486
7G035EK1C	35, 44	680	1.432	.767	.682	.512

Sprague Number 502D-	WVDC, VDC Surge	Cap., µF	Net Each, Lots of 1-24	25-49	50-99	100-249
108G035EU1C	35, 44	1000	$2.365	$1.267	$1.126	$0.845
105G050BB1C	50, 63	1.0	.928	.497	.442	.332
155G050BB1C	50, 63	1.5	.928	.497	.442	.332
225G050BB1C	50, 63	2.2	.928	.497	.442	.332
335G050BB1C	50, 63	3.3	.928	.497	.442	.332
475G050BB1C	50, 63	4.7	.928	.497	.442	.332
685G050BB1C	50, 63	6.8	.928	.497	.442	.332
686G050CG1C	50, 63	68	1.042	.558	.496	.372
476G050CD1C	50, 63	47	1.016	.545	.484	.363
107G050CG1C	50, 63	100	1.042	.558	.496	.372
157G050DG1C	50, 63	150	1.109	.594	.528	.396
337G050EK1C	50, 63	330	1.432	.767	.682	.512
105G063BB1C	63, 75	1.0	.928	.497	.442	.332
155G063BB1C	63, 75	1.5	.928	.497	.442	.332
225G063BB1C	63, 75	2.2	.928	.497	.442	.332
335G063BB1C	63, 75	3.3	.928	.497	.442	.332
475G063BB1C	63, 75	4.7	.928	.497	.442	.332
685G063BB1C	63, 75	6.8	.928	.497	.442	.332
106G063BB1C	63, 75	10	.928	.497	.442	.332
156G063CC1C	63, 75	15	1.000	.536	.476	.357
226G063CC1C	63, 75	22	1.000	.536	.476	.357
336G063CD1C	63, 75	33	1.016	.545	.484	.363
476G063CG1C	63, 75	47	1.042	.558	.496	.372
686G063CG1C	63, 75	68	1.042	.558	.496	.372
107G063DG1C	63, 75	100	1.109	.594	.528	.396
157G063EG1C	63, 75	150	1.361	.729	.648	.486
227G063EK1C	63, 75	220	1.432	.767	.682	.512
477G063EU1C	63, 75	470	2.365	1.267	1.126	.845
687G063EU1C	63, 75	680	2.365	1.267	1.126	.845

TYPE 602D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Large cylindrical power supply filter capacitors with exceptional performance over long and trouble-free life. Type 602D have high ripple current capability and are designed for continuous operation over temperature range of −55° C to +85° C. Safely carry as much as 10 amps of ripple current at 120 Hz. Superior humidity seal. Ideal for input of power supply filters. Capacitors with outer insulation are listed below. For bare case, change the 14th character of Sprague number from 2 to 0. With low-screw insert terminals. For high screw insert terminals, change last character of Sprague number to B.

5 WVDC, 7 V SURGE

Sprague Number	µF	Code*
602D802G005AA2A	8000	AA
602D173G005AB2A	17000	AB
602D253G005AC2A	25000	AC
602D293G005AD2A	29000	AD
602D343G005AE2A	34000	AE
602D373G005AF2A	37000	AF
602D403G005BB2A	40000	BB
602D603G005BC2A	60000	BC
602D673G005CB2D	67000	CB
602D703G005BD2D	70000	BD
602D803G005BE2A	80000	BE
602D903G005BF2A	90000	BF
602D104G005CC2D	100000	CC
602D114G005CD2D	110000	CD
602D134G005CE2D	130000	CE
602D154G005CF2D	150000	CF
602D154G005DC2D	150000	DC
602D174G005DD2D	170000	DD
602D204G005DE2D	200000	DE
602D224G005DF2D	220000	DF

10 WVDC, 15 V SURGE

Sprague Number	µF	Code*
602D502G010AA2A	5000	AA
602D103G010AB2A	10000	AB
602D153G010AC2A	15000	AC
602D173G010AD2A	17000	AD
602D203G010AE2A	20000	AE
602D223G010AF2A	22000	AF
602D243G010BB2A	24000	BB
602D373G010BC2A	37000	BC
602D423G010CB2D	42000	CB
602D433G010BD2A	43000	BD
602D483G010BE2A	48000	BE
602D553G010BF2A	55000	BF
602D643G010CC2D	64000	CC
602D753G010CD2D	75000	CD
602D863G010CE2D	86000	CE
602D943G010DC2D	94000	DC
602D963G010CF2D	96000	CF
602D114G010DD2D	110000	DD
602D124G010DE2D	120000	DE
602D144G010DF2D	140000	DF

15 WVDC, 20 V SURGE

Sprague Number	µF	Code*
602D402G015AA2A	4000	AA
602D802G015AB2A	8000	AB
602D123G015AC2A	12000	AC
602D143G015AD2A	14000	AD
602D163G015AE2A	16000	AE
602D183G015AF2A	18000	AF
602D203G015BB2A	20000	BB
602D303G015BC2A	30000	BC
602D353G015BD2A	35000	BD
602D403G015BE2A	40000	BE
602D423G015CB2D	42000	CB
602D453G015BF2A	45000	BF
602D513G015CC2D	51000	CC
602D593G015CD2D	59000	CD
602D683G015CE2D	68000	CE
602D763G015CF2D	76000	CF
602D763G015DC2D	76000	DC
602D893G015DD2D	89000	DD
602D104G015DE2D	100000	DE
602D114G015DF2D	110000	DF

20 WVDC, 30 V SURGE

Sprague Number	µF	Code*
602D282G020AA2A	2800	AA
602D512G020AB2A	5100	AB
602D862G020AC2A	8600	AC
602D103G020AD2A	10000	AD
602D113G020AE2A	11000	AE
602D133G020AF2A	13000	AF

20 WVDC (CONT'D)

Sprague Number	µF	Code*
602D203G020BC2A	20000	BC
602D233G020BD2A	23000	BD
602D243G020CB2D	24000	CB
602D263G020BE2A	26000	BE
602D303G020BF2A	30000	BF
602D373G020CC2D	37000	CC
602D433G020CD2D	43000	CD
602D473G020CE2D	47000	CE
602D543G020DC2D	54000	DC
602D553G020CF2D	55000	CF
602D633G020DB2D	63000	DD
602D733G020DE2D	73000	DE
602D823G020DF2D	82000	DF

25 WVDC, 40 V SURGE

Sprague Number	µF	Code*
602D252G025AA2A	2500	AA
602D502G025AB2A	5000	AB
602D752G025AC2A	7500	AC
602D872G025AD2A	8700	AD
602D103G025AE2A	10000	AE
602D113G025AF2A	11000	AF
602D173G025BC2A	17000	BC
602D203G025BD2A	20000	BD
602D203G025CB2D	20000	CB
602D233G025BE2A	23000	BE
602D253G025BF2A	25000	BF
602D303G025CC2D	30000	CC
602D353G025CD2D	35000	CD
602D403G025CE2D	40000	CE
602D443G025DC2D	44000	DC
602D453G025CF2D	45000	CF
602D523G025DD2D	52000	DD
602D603G025DE2D	60000	DE
602D673G025DF2D	67000	DF

30 WVDC, 40 V SURGE

Sprague Number	µF	Code*
602D222G030AA2A	2200	AA
602D442G030AB2A	4400	AB
602D662G030AC2A	6600	AC
602D772G030AD2A	7700	AD
602D882G030AE2A	8800	AE
602D992G030AF2A	9900	AF
602D103G030BB2A	10000	BB
602D153G030BC2A	15000	BC
602D173G030BD2A	17000	BD
602D183G030CB2D	18000	CB
602D203G030BE2A	20000	BE
602D223G030BF2A	22000	BF
602D263G030CC2D	26000	CC
602D303G030CD2D	30000	CD
602D341G030CE2D	34000	CE
602D383G030DC2D	38000	DC
602D393G030DF2D	39000	CF
602D453G030DD2D	45000	DD
602D523G030DE2D	52000	DE
602D583G030DF2D	58000	DF

40 WVDC, 55 V SURGE

Sprague Number	µF	Code*
602D182G040AA2A	1800	AA
602D372G040AB2A	3700	AB
602D552G040AC2A	5500	AC
602D642G040AD2A	6400	AD
602D742G040AE2A	7400	AE
602D822G040AF2A	8200	AF
602D902G040BB2A	9000	BB
602D133G040BC2A	13000	BC
602D153G040BD2A	15000	BD
602D153G040CB2A	15000	CB
602D183G040BE2A	18000	BE
602D193G040BF2A	19000	BF
602D223G040CC2D	22000	CC
602D253G040CD2D	25000	CD

40 WVDC (CONT'D)

Sprague Number	µF	Code*
602D283G040CE2D	28000	CE
602D323G040DC2D	32000	DC
602D333G040CF2D	33000	CF
602D373G040DD2D	37000	DD
602D433G040DE2D	43000	DE
602D483G040DF2D	48000	DF

50 WVDC, 75 V SURGE

Sprague Number	µF	Code*
602D142G050AA2A	1400	AA
602D292G050AB2A	2900	AB
602D442G050AC2A	4400	AC
602D512G050AD2A	5100	AD
602D582G050AE2A	5800	AE
602D662G050AF2A	6600	AF
602D902G050BC2A	9000	BC
602D113G050BD2A	11000	BD
602D123G050CB2D	12000	CB
602D133G050BE2A	13000	BE
602D153G050BF2A	15000	BF
602D173G050CC2D	17000	CC
602D203G050CD2D	20000	CD
602D223G050CE2D	22000	CE
602D253G050CF2D	25000	CF
602D253G050DC2D	25000	DC
602D303G050DD2D	30000	DD
602D343G050DE2D	34000	DE
602D393G050DF2D	39000	DF

75 WVDC, 100 V SURGE

Sprague Number	µF	Code*
602D531F075AA2A	530	AA1
602D102F075AB2A	1000	AB1
602D162F075AC2A	1600	AC1
602D182F075AD2A	1800	AD1
602D202F075AE2A	2000	AE1
602D242F075AF2A	2400	AF1
602D262F075BB2A	2600	BB1
602D392F075BC2A	3900	BC1
602D442F075CB2D	4400	CB1
602D452F075BD2A	4500	BD1
602D502F075BE2A	5000	BE1
602D582F075BF2A	5800	BF1
602D662F075CC2D	6600	CC1
602D772F075CD2D	7700	CD1
602D882F075CE2D	8800	CE1
602D952F075DC2D	9500	DC1
602D992F075CF2D	9900	CF1
602D113F075DD2D	11000	DD1
602D133F075DE2D	13000	DE1
602D143F075DF2D	14000	DF1

100 WVDC, 150 V SURGE

Sprague Number	µF	Code*
602D251F100AA2A	250	AA
602D501F100AB2A	500	AB1
602D801F100AC2A	800	AC1
602D901F100AD2A	900	AD1
602D102F100AE2A	1000	AE1
602D112F100AF2A	1100	AF1
602D122F100BB2A	1200	BB1
602D182F100BC2A	1800	BC1
602D212F100BD2A	2100	BD1
602D212F100CB2D	2100	CB1
602D242F100BE2A	2400	BE1
602D262F100BF2A	2600	BF1
602D312F100CC2D	3100	CC1
602D362F100CD2D	3600	CD1
602D412F100CE2D	4100	CE1
602D452F100CF2D	4500	CF1
602D462F100DC2D	4600	DC1
602D552F100DD2D	5500	DD1
602D602F100DE2D	6000	DE1
602D672F100DF2D	6700	DF1

*CASE SIZES AND PRICES

* Code	Case Size, In.† Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
AA	1.438 x 2.188	$ 5.43	$ 4.53	$2.59	$2.35	$2.17
AA1	1.438 x 2.188	5.97	4.98	2.85	2.59	2.39
AB	1.438 x 3.188	6.60	5.50	3.15	2.86	2.64
AB1	1.438 x 3.188	7.26	6.05	3.46	3.15	2.90
AC	1.438 x 4.188	7.95	6.63	3.79	3.45	3.18
AC1	1.438 x 4.188	8.73	7.28	4.16	3.78	3.49
AD	1.438 x 4.688	8.70	7.25	4.15	3.77	3.48
AD1	1.438 x 4.688	9.57	7.98	4.56	4.15	3.83
AE	1.438 x 5.188	9.54	7.95	4.55	4.13	3.82
AE1	1.438 x 5.188	10.50	8.75	5.01	4.55	4.20
AF	1.438 x 5.688	10.23	8.53	4.88	4.43	4.09
AF1	1.438 x 5.688	11.25	9.38	5.36	4.88	4.50
BB	2.062 x 3.188	10.32	8.60	4.92	4.47	4.13
BB1	2.062 x 3.188	11.34	9.45	5.41	4.91	4.54
BC	2.062 x 4.188	12.27	10.23	5.85	5.32	4.91
BC1	2.062 x 4.188	13.50	11.25	6.44	5.85	5.40
BD	2.062 x 4.688	13.50	11.25	6.44	5.85	5.40
BD1	2.062 x 4.688	14.85	12.38	7.08	6.44	5.94
BE	2.062 x 5.188	14.52	12.10	6.92	6.29	5.81
BE1	2.062 x 5.188	15.96	13.30	7.61	6.92	6.38

* Code	Case Size, In.† Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
BF	2.062 x 5.688	$15.51	$12.93	$ 7.39	$ 6.72	$ 6.20
BF1	2.062 x 5.688	17.07	14.23	8.14	7.40	6.83
CB	2.578 x 3.250	15.36	12.80	7.32	6.66	6.14
CB1	2.578 x 3.250	16.89	14.08	8.05	7.32	6.76
CC	2.578 x 4.250	19.08	15.90	9.10	8.27	7.63
CC1	2.578 x 4.250	20.97	17.48	10.00	9.09	8.39
CD	2.578 x 4.750	20.70	17.25	9.87	8.97	8.28
CD1	2.578 x 4.750	22.77	18.98	10.85	9.87	9.11
CE	2.578 x 5.250	23.22	19.35	11.07	10.06	9.29
CE1	2.578 x 5.250	25.53	21.28	12.17	11.06	10.21
CF	2.578 x 5.750	25.05	20.88	11.94	10.86	10.02
CF1	2.578 x 5.750	27.54	22.95	13.13	11.93	11.02
DC	3.078 x 4.250	28.80	24.00	13.73	12.48	11.52
DC1	3.078 x 4.250	31.68	26.40	15.10	13.73	12.67
DD	3.078 x 4.750	32.58	27.15	15.53	14.12	13.03
DD1	3.078 x 4.750	35.85	29.88	17.09	15.54	14.34
DE	3.078 x 5.250	36.21	30.18	17.26	15.69	14.48
DE1	3.078 x 5.250	39.84	33.20	18.99	17.26	15.94
DF	3.078 x 5.750	39.63	33.03	18.89	17.17	15.85
DF1	3.078 x 5.750	43.59	36.33	20.78	18.89	17.44

†For bare case sizes, subtract .063" from diameter and length.

TYPE 503D VERTI-LYTIC® MINIATURE ELECTROLYTICS



Low cost capacitors are designed for high density applications. Low leakage current and excellent stability and ESR. Operating temperature, 85° C. Metal-encased, with plastic insulating sleeve.

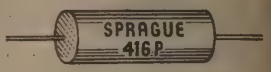
Sprague Number 503D-	µF	WV DC	Size, Ins. Dia. x Lgth.	Net Each, Lots of★ 1-49	50-99	100-299
76G6R3AS	47	6.3	.236 x .433	$0.316	$0.211	$0.15
07G6R3BB	100	6.3	.315 x .492	.328	.219	.156
27F6R3NB	220	6.3	.394 x .492	.445	.286	.212
37F6R3NC	330	6.3	.394 x .630	.512	.329	.244
77F6R3ND	470	6.3	.394 x .787	.563	.362	.268
77G6R3CG	470	6.3	.394 x .787	.398	.265	.189
87G6R3DG	680	6.3	.512 x .787	.568	.379	.27
08G6R3DK	1000	6.3	.512 x .984	.632	.421	.30
58G6R3EK	1500	6.3	.630 x .984	1.03	.686	.489
28F6R3QE	2200	6.3	.630 x .984	1.151	.74	.548
28G6R3ER	2200	6.3	.630 x 1.200	1.213	.809	.576
38F6R3QG	3300	6.3	.630 x 1.400	1.537	.988	.732
38G6R3ET	3300	6.3	.630 x 1.610	1.579	1.053	.75
78F6R3SJ	4700	6.3	.709 x 1.610	2.629	1.69	1.252
88F6R3TJ	6800	6.3	.866 x 1.610	3.704	2.381	1.764
09F6R3UJ	10000	6.3	1.000 x 1.610	4.822	3.10	2.296
26F010KA	22	10	.197 x .433	.294	.189	.14
36G010AS	33	10	.236 x .433	.316	.211	.15
76F010LA	47	10	.236 x .433	.328	.211	.156
86G010BB	68	10	.315 x .492	.328	.219	.156
07F010MB	100	10	.315 x .492	.395	.254	.188
07G010CB	100	10	.394 x .492	.335	.223	.159
57F010NB	150	10	.394 x .492	.445	.286	.212
57G010CB	150	10	.394 x .492	.335	.223	.159
27F010NC	220	10	.394 x .630	.512	.329	.244
27G010CD	220	10	.394 x .630	.341	.227	.162
37F010ND	330	10	.394 x .787	.563	.362	.268
37G010CG	330	10	.394 x .787	.398	.265	.189
77G010DG	470	10	.512 x .787	.568	.379	.27
87F010PD	680	10	.512 x .787	.815	.524	.388
87G010DK	680	10	.512 x .984	.632	.421	.30
08F010PE	1000	10	.512 x .984	.949	.61	.452
08G010EK	1000	10	.630 x .984	1.03	.686	.489
58F010QE	1500	10	.630 x .984	1.151	.74	.548
58G010ER	1500	10	.630 x 1.200	1.213	.809	.576
28F010QF	2200	10	.630 x 1.240	1.361	.875	.648
28G010EU	2200	10	.630 x 1.440	1.371	.914	.651
38F010SH	330	10	.709 x 1.440	2.377	1.528	1.132
78F010TJ	470	10	.866 x 1.610	3.31	2.128	1.576
88F010UJ	680	10	1.000 x 1.610	4.301	2.765	2.048
09F010UK	1000	10	1.000 x 2.010	4.822	3.10	2.296
85G016HS	6.8	16	.197 x .433	.303	.202	.144
06F016KA	10	16	.197 x .433	.294	.189	.14
06G016HS	10	16	.197 x .433	.303	.202	.144
56F016KA	15	16	.197 x .433	.294	.189	.14
56G016AS	15	16	.236 x .433	.316	.211	.15
26F016LA	22	16	.236 x .433	.328	.211	.156
26G016AS	22	16	.236 x .433	.316	.211	.15
36F016LA	33	16	.236 x .433	.328	.211	.156
76F016MB	47	16	.315 x .492	.395	.254	.188
76G016BB	47	16	.315 x .492	.328	.219	.156
86F016MB	68	16	.315 x .492	.395	.254	.188
86G016CB	68	16	.394 x .492	.335	.223	.159
07F016NB	100	16	.394 x .492	.445	.286	.212
07G016CD	100	16	.394 x .630	.341	.227	.162
57F016NC	150	16	.512 x .787	.512	.329	.244
57G016CD	150	16	.394 x .630	.341	.227	.162
27F016ND	220	16	.394 x .787	.563	.362	.268
27G016CG	220	16	.394 x .787	.398	.265	.189
37F016PD	330	16	.512 x .787	.815	.524	.388
37G016DG	330	16	.512 x .787	.568	.379	.27
77F016PD	470	16	.512 x .787	.815	.524	.388
77G016DK	470	16	.512 x .984	.632	.421	.30
87F016PE	680	16	.512 x .984	.949	.61	.452
87G016EK	680	16	.630 x .984	1.03	.686	.489
08F016QE	1000	16	.630 x .984	1.151	.74	.548
08G016ER	1000	16	.630 x 1.200	1.213	.809	.576
58F016QF	1500	16	.630 x 1.240	1.361	.875	.648
58G016ET	1500	16	.630 x 1.610	1.579	1.053	.75
28F016SH	2200	16	.709 x 1.440	2.377	1.528	1.132
78F016UJ	4700	16	1.000 x 1.610	4.301	2.765	2.048
88F016UK	6800	16	1.000 x 2.010	5.015	3.224	2.388
74G025HS	.47	25	.197 x .433	.303	.202	.144
84G025HS	.68	25	.197 x .433	.303	.202	.144
05G025HS	1.0	25	.197 x .433	.303	.202	.144
55G025HS	1.5	25	.197 x .433	.303	.202	.144
25G025HS	2.2	25	.197 x .433	.303	.202	.144
35G025HS	3.3	25	.197 x .433	.303	.202	.144
75G025HS	4.7	25	.197 x .433	.303	.202	.144
85F025KA	6.8	25	.197 x .433	.294	.189	.14
85G025AS	6.8	25	.236 x .433	.316	.211	.15
06G025AS	10	25	.236 x .433	.303	.202	.144
56F025LA	15	25	.236 x .433	.328	.211	.156
56G025BB	15	25	.315 x .492	.328	.219	.156
26G025BB	22	25	.315 x .492	.328	.219	.156
36F025MB	33	25	.315 x .492	.395	.254	.188
36G025BB	33	25	.315 x .492	.328	.219	.156
76G025CB	47	25	.394 x .492	.335	.223	.159
86F025NB	68	25	.394 x .492	.445	.286	.212
86G025CD	68	25	.394 x .630	.341	.227	.162
07F025NC	100	25	.394 x .630	.512	.329	.244
07G025CG	100	25	.394 x .787	.398	.265	.189
57F025ND	150	25	.394 x .787	.563	.362	.268
57G025DG	150	25	.512 x .787	.568	.379	.27
27F025PD	220	25	.512 x .787	$0.815	$0.524	$0.388
27G025DG	220	25	.512 x .787	.568	.379	.27
37F025PE	330	25	.512 x .984	.949	.61	.452
37G025DK	330	25	.512 x .984	.632	.421	.30
47G025EK	470	25	.630 x .984	1.03	.686	.489
87F025QE	680	25	.630 x .984	1.151	.74	.548
87G025ER	680	25	.630 x 1.200	1.213	.809	.576
08F025QG	1000	25	.630 x 1.400	1.537	.988	.732
08G025EU	1000	25	.630 x 1.610	1.371	.914	.651
58F025QG	1500	25	.630 x 1.400	2.377	1.528	1.132
28F025SJ	2200	25	.709 x 1.610	3.31	2.218	1.576
38F025TJ	3300	25	.866 x 1.610	4.108	2.641	1.956
47F035KA	4.7	35	.197 x .433	.294	.189	.14
68G035AS	6.8	35	.236 x .433	.316	.211	.15
10F035LA	10	35	.236 x .433	.328	.211	.156
22F035MB	22	35	.315 x .492	.395	.254	.188
33G035NB	33	35	.394 x .492	.445	.286	.212
33G035CB	33	35	.394 x .492	.335	.223	.159
47F035NB	47	35	.394 x .492	.445	.286	.212
47G035CD	47	35	.394 x .630	.341	.227	.162
68F035NC	68	35	.394 x .630	.512	.329	.244
10?F035ND	100	35	.394 x .787	.563	.362	.268
15?F035PD	150	35	.512 x .787	.815	.524	.388
15?G035DG	150	35	.512 x .787	.568	.379	.27
22?F035PE	220	35	.512 x .984	.949	.61	.452
22?G035DK	220	35	.512 x .984	.632	.421	.30
33?F035QE	330	35	.630 x .984	1.151	.74	.548
33?G035EK	330	35	.630 x .984	1.03	.686	.489
47?F035QE	470	35	.630 x .984	1.361	.875	.648
47?G035ER	470	35	.630 x 1.200	1.213	.809	.576
68?F035QG	680	35	.630 x 1.400	1.537	.988	.732
68?G035EU	680	35	.630 x 1.440	1.371	.914	.651
10?F035SH	1000	35	.709 x 1.440	2.377	1.528	1.132
15?F035SJ	1500	35	.709 x 1.610	3.31	2.128	1.576
22?F035TJ	2200	35	.866 x 1.610	3.704	2.381	1.764
33?F035UJ	3300	35	1.000 x 1.610	4.822	3.10	2.296
47?F035UK	4700	35	1.000 x 2.010	5.67	3.645	2.70
22?G050HS	2.2	50	.197 x .433	.303	.202	.144
47?G050AS	4.7	50	.236 x .433	.316	.211	.15
68?F050LA	6.8	50	.236 x .433	.328	.211	.156
15?F050MB	15	50	.315 x .492	.395	.254	.188
15?G050BB	15	50	.315 x .492	.328	.219	.156
22?F050NB	22	50	.394 x .492	.445	.286	.212
33?G050CD	33	50	.394 x .630	.341	.227	.162
47?F050NC	47	50	.394 x .630	.512	.329	.244
68?G050CG	68	50	.394 x .787	.398	.265	.189
10?F050PD	100	50	.512 x .787	.815	.524	.388
10?G050DG	100	50	.512 x .787	.568	.379	.27
15?F050PE	150	50	.512 x .984	.949	.61	.452
22?F050QE	220	50	.630 x .984	1.151	.74	.548
22?G050EK	220	50	.630 x .984	1.03	.686	.489
33?F050QF	330	50	.630 x 1.240	1.361	.875	.648
33?G050ER	330	50	.630 x 1.200	1.213	.809	.576
47?F050QG	470	50	.630 x 1.400	1.537	.988	.732
47?G050ET	470	50	.630 x 1.610	1.579	1.053	.75
68?F050SH	680	50	.709 x 1.440	2.377	1.528	1.132
10?F050SJ	1000	50	.709 x 1.610	2.948	1.895	1.404
15?F050TJ	1500	50	.866 x 1.610	4.108	2.641	1.956
22?F050UJ	2200	50	1.000 x 1.610	4.822	3.10	2.296
33?F050UK	3300	50	1.000 x 2.010	5.67	3.645	2.70
47?F063KA	.47	63	.197 x .433	.294	.189	.14
47?G063HS	.47	63	.197 x .433	.303	.202	.144
68?F063KA	.68	63	.197 x .433	.294	.189	.14
68?G063HS	.68	63	.197 x .433	.303	.202	.144
10?F063KA	1.0	63	.197 x .433	.294	.189	.14
10?G063HS	1.0	63	.197 x .433	.303	.202	.144
15?F063KA	1.5	63	.197 x .433	.294	.189	.14
15?G063HS	1.5	63	.197 x .433	.303	.202	.144
22?F063KA	2.2	63	.197 x .433	.294	.189	.14
22?G063HS	2.2	63	.197 x .433	.303	.202	.144
33?F063KA	3.3	63	.197 x .433	.294	.189	.14
33?G063AS	3.3	63	.236 x .433	.316	.211	.15
47?F063LA	4.7	63	.236 x .433	.328	.211	.156
47?G063EB	4.7	63	.315 x .492	.328	.219	.156
68?F063MB	6.8	63	.315 x .492	.395	.254	.188
68?G063EB	6.8	63	.315 x .492	.328	.219	.156
10?F063MB	10	63	.315 x .492	.395	.254	.188
10?G063EB	10	63	.315 x .492	.328	.219	.156
15?F063NB	15	63	.394 x .492	.445	.286	.212
15?G063CB	15	63	.394 x .492	.335	.223	.159
22?F063NC	22	63	.394 x .630	.512	.329	.244
22?G063CB	22	63	.394 x .492	.335	.223	.159
33?F063NC	33	63	.394 x .630	.512	.329	.244
33?G063CG	33	63	.394 x .787	.398	.265	.189
47?F063ND	47	63	.394 x .787	.563	.362	.268
47?G063CG	47	63	.394 x .787	.398	.265	.189
68?F063PD	68	63	.512 x .787	.815	.524	.388
68?G063DG	68	63	.512 x .787	.568	.379	.27
10?F063PE	100	63	.512 x .984	.949	.61	.452
10?G063DK	100	63	.512 x .984	.632	.421	.30
15?F063QE	150	63	.630 x .984	1.151	.74	.548
15?G063EK	150	63	.630 x .984	1.03	.686	.489
22?F063QF	220	63	.630 x 1.240	1.361	.875	.648
22?G063EU	220	63	.630 x 1.440	1.371	.914	.651
33?F063QG	330	63	.630 x 1.400	1.537	.988	.732
33?G063ET	330	63	.630 x 1.610	1.579	1.053	.75
47?F063SH	470	63	.709 x 1.440	2.377	1.528	1.132
68?F063SJ	680	63	.709 x 1.610	2.948	1.895	1.404
10?F063TJ	1000	63	.866 x 1.610	3.704	2.381	1.764
15?F063UJ	1500	63	1.000 x 1.610	4.964	3.191	2.364
22?F063UK	2200	63	1.000 x 2.010	5.477	3.521	2.608

★LARGER QUANTITY PRICES ON REQUEST.

SPRAGUE Filmite® "E" Capacitors

TYPE 416P YELLOW JACKET® FILMITE® "E" CAPACITORS

Economically priced Yellow Jacket® capacitors are designed for all kinds of commercial applications. Extended foil construction. Protected against moisture by outer wrap of polyester film and plastic resin end seals. Operating temperature rated for −55° C to +85° C, can also operate to +105° C with voltage derating. High insulation resistance. Lightweight and minimum size. Made by Sprague World Trade Corp. in Taiwan to U.S. quality standards.



50 WVDC

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
1239R5	0.012	.190 x .531	$0.45	$0.284	$0.222	$0.176	$0.162
1539R5	0.015	.190 x .531	.45	.284	.222	.176	.162
1839R5	0.018	.200 x .594	.45	.284	.222	.176	.162
2239R5	0.022	.200 x .594	.45	.284	.222	.176	.162
2739R5	0.027	.210 x .656	.48	.322	.252	.20	.183
3339R5	0.033	.210 x .656	.48	.322	.252	.20	.183
3939R5	0.039	.215 x .718	.48	.322	.252	.20	.183
4739R5	0.047	.215 x .718	.54	.359	.281	.223	.205
5639R5	0.056	.240 x .844	.54	.359	.281	.223	.205
6839R5	0.068	.240 x .844	.54	.359	.281	.223	.205
8239R5	0.082	.275 x .969	.60	.397	.311	.247	.226
1049R5	0.1	.290 x .750	.66	.435	.34	.27	.248
1249R5	0.12	.315 x .812	.66	.435	.34	.27	.248
1549R5	0.15	.315 x .812	.72	.472	.37	.293	.269
1849R5	0.18	.315 x 1.062	.78	.51	.399	.317	.291
2249R5	0.22	.315 x 1.062	.78	.51	.399	.317	.291
2749R5	0.27	.375 x 1.062	.84	.548	.429	.34	.312
3349R5	0.33	.375 x 1.062	.87	.585	.458	.364	.334
3949R5	0.39	.430 x 1.062	.93	.623	.488	.387	.355
4749R5	0.47	.430 x 1.062	1.05	.698	.547	.434	.398
5649R5	0.56	.450 x 1.375	1.11	.736	.576	.457	.42
6849R5	0.68	.450 x 1.375	1.20	.791	.619	.491	.451
8249R5	0.82	.500 x 1.375	1.29	.867	.678	.538	.494
1059R5	1.0	.500 x 1.375	1.47	.98	.767	.608	.558

100 WVDC

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
56291	0.0056	.190 x .450	$0.36	$0.226	$0.177	$0.14	$0.129
68291	0.0068	.190 x .450	.36	.226	.177	.14	.129
82291	0.0082	.190 x .450	.36	.226	.177	.14	.129
10391	0.01	.190 x .450	.39	.246	.193	.153	.14
27391	0.027	.190 x .718	.48	.322	.252	.20	.183
33391	0.033	.190 x .718	.48	.322	.252	.20	.183
39391	0.039	.215 x .718	.48	.322	.252	.20	.183
47391	0.047	.215 x .718	.54	.359	.281	.223	.205
56391	0.056	.215 x .844	.60	.397	.311	.247	.226
68391	0.068	.215 x .844	.54	.359	.281	.223	.205
82391	0.082	.245 x .844	.60	.397	.311	.247	.226
10491	0.1	.245 x .844	.60	.397	.311	.247	.226
12491	0.12	.285 x .844	.66	.435	.34	.27	.248
15491	0.15	.285 x .844	.66	.435	.34	.27	.248
18491	0.18	.290 x 1.250	.69	.452	.354	.281	.258
22491	0.22	.290 x 1.250	.75	.49	.383	.304	.279
27491	0.27	.325 x 1.250	.81	.527	.413	.328	.301
33491	0.33	.325 x 1.250	.84	.565	.442	.351	.322
39491	0.39	.380 x 1.250	.90	.603	.472	.374	.344
47491	0.47	.380 x 1.250	1.02	.678	.531	.421	.387
56491	0.56	.455 x 1.562	1.11	.736	.576	.457	.42
68491	0.68	.455 x 1.562	1.26	.829	.649	.515	.472
82491	0.82	.535 x 1.562	1.41	.942	.737	.585	.537
10591	1.0	.535 x 1.562	1.59	1.055	.826	.655	.601

200 WVDC

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
10292	0.001	.190 x .450	$0.33	$0.209	$0.163	$0.13	$0.119
12292	0.0012	.190 x .450	.33	.209	.163	.13	.119
15292	0.0015	.190 x .450	.33	.209	.163	.13	.119
18292	0.0018	.190 x .450	.33	.209	.163	.13	.119
22292	0.0022	.190 x .450	.33	.209	.163	.13	.119
27292	0.0027	.190 x .450	.36	.226	.177	.14	.129
33292	0.0033	.190 x .450	.36	.226	.177	.14	.129
39292	0.0039	.190 x .450	.36	.226	.177	.14	.129
47292	0.0047	.190 x .450	.36	.226	.177	.14	.129
56292	0.0056	.190 x .718	.39	.246	.193	.153	.14
68292	0.0068	.190 x .718	.39	.246	.193	.153	.14
82292	0.0082	.190 x .718	.39	.246	.193	.153	.14
10392	0.01	.190 x .718	.42	.264	.206	.164	.15
12392	0.012	.190 x .718	.45	.284	.222	.176	.162
15392	0.015	.190 x .718	.45	.284	.222	.176	.162
18392	0.018	.190 x .718	.45	.284	.222	.176	.162
22392	0.022	.190 x .718	.45	.284	.222	.176	.162
27392	0.027	.190 x .844	.48	.322	.252	.20	.183
33392	0.033	.190 x .844	.48	.322	.252	.20	.183
39392	0.039	.210 x .844	.48	.322	.252	.20	.183
47392	0.047	.210 x .844	.54	.359	.281	.223	.205
56392	0.056	.240 x .844	.54	.359	.281	.223	.205
68392	0.068	.240 x .844	.54	.359	.281	.223	.205
82392	0.082	.275 x .969	.60	.397	.311	.247	.226

200 WVDC (CONT'D)

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
10492	0.1	.275 x .969	$0.60	$0.397	$0.311	$0.247	$0.226
12492	0.12	.345 x 1.000	.69	.452	.354	.281	.258
15492	0.15	.345 x 1.000	.75	.49	.383	.304	.279
18492	0.18	.355 x 1.250	.75	.49	.383	.304	.279
22492	0.22	.355 x 1.250	.78	.51	.399	.317	.291
27492	0.27	.425 x 1.250	.84	.565	.442	.351	.322
33492	0.33	.425 x 1.250	.90	.603	.472	.374	.344
39492	0.39	.440 x 1.562	.99	.661	.517	.41	.377
47492	0.47	.440 x 1.562	1.08	.716	.56	.445	.408
56492	0.56	.610 x 1.750	1.44	.962	.753	.598	.548
68492	0.68	.610 x 1.750	1.71	1.13	.885	.702	.644
82492	0.82	.710 x 1.875	1.95	1.301	1.018	.808	.742
10592	1.0	.710 x 1.875	2.19	1.469	1.15	.913	.838

400 WVDC

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
27294	0.0027	.190 x .718	$0.42	$0.264	$0.206	$0.164	$0.15
33294	0.0033	.190 x .718	.42	.264	.206	.164	.15
39294	0.0039	.190 x .718	.42	.264	.206	.164	.15
47294	0.0047	.190 x .718	.42	.264	.206	.164	.15
56294	0.0056	.200 x .718	.42	.264	.206	.164	.15
68294	0.0068	.200 x .718	.45	.284	.222	.176	.162
82294	0.0082	.210 x .844	.45	.284	.222	.176	.162
10394	0.01	.210 x .844	.45	.284	.222	.176	.162
12394	0.012	.230 x .844	.45	.301	.236	.187	.172
15394	0.015	.230 x .844	.45	.301	.236	.187	.172
18394	0.018	.265 x .844	.51	.339	.265	.211	.193
22394	0.022	.265 x .844	.51	.339	.265	.211	.193
27394	0.027	.315 x .875	.60	.397	.311	.247	.226
33394	0.033	.315 x .875	.63	.414	.324	.257	.236
39394	0.039	.325 x 1.000	.63	.414	.324	.257	.236
47394	0.047	.325 x 1.000	.66	.435	.34	.27	.216
56394	0.056	.340 x 1.250	.66	.435	.34	.27	.248
68394	0.068	.340 x 1.250	.69	.452	.354	.281	.258
82394	0.082	.400 x 1.250	.72	.472	.37	.293	.269
10494	0.1	.400 x 1.250	.78	.51	.399	.317	.291
12494	0.12	.405 x 1.562	.81	.527	.413	.328	.301
15494	0.15	.405 x 1.562	.90	.603	.472	.374	.344
18494	0.18	.480 x 1.562	.96	.64	.501	.398	.365
22494	0.22	.480 x 1.562	1.08	.716	.56	.445	.408
27494	0.27	.650 x 1.750	1.29	.867	.678	.538	.494
33494	0.33	.650 x 1.750	1.47	.98	.767	.608	.558
39494	0.39	.725 x 1.937	1.98	1.319	1.032	.819	.752
47494	0.47	.725 x 1.937	2.25	1.507	1.179	.936	.859

600 WVDC

Sprague Number 416P-	µF	Case Size, Inches Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-499	500-999
10296	0.001	.190 x .718	$0.45	$0.284	$0.222	$0.176	$0.162
12296	0.0012	.190 x .718	.45	.284	.222	.176	.162
15296	0.0015	.190 x .718	.45	.284	.222	.176	.162
18296	0.0018	.190 x .718	.45	.284	.222	.176	.162
22296	0.0022	.190 x .718	.45	.284	.222	.176	.162
27296	0.0027	.205 x .718	.45	.284	.222	.176	.162
33296	0.0033	.205 x .718	.45	.284	.222	.176	.162
39296	0.0039	.235 x .718	.45	.284	.222	.176	.162
47296	0.0047	.235 x .718	.45	.284	.222	.176	.162
56296	0.0056	.240 x .844	.51	.339	.265	.211	.193
68296	0.0068	.240 x .844	.51	.339	.265	.211	.193
82296	0.0082	.270 x .844	.54	.359	.281	.223	.205
10396	0.01	.270 x .844	.57	.377	.295	.234	.215
12396	0.012	.315 x .875	.60	.397	.311	.247	.226
15396	0.015	.315 x .875	.63	.414	.324	.257	.236
18396	0.018	.375 x .875	.66	.435	.34	.27	.248
22396	0.022	.375 x .875	.69	.452	.354	.281	.258
27396	0.027	.395 x 1.000	.69	.452	.354	.281	.258
33396	0.033	.395 x 1.000	.75	.49	.383	.304	.279
39396	0.039	.400 x 1.250	.75	.49	.383	.304	.279
47396	0.047	.400 x 1.250	.78	.51	.399	.317	.291
56396	0.056	.455 x 1.250	.84	.548	.429	.34	.312
68396	0.068	.455 x 1.250	.87	.585	.458	.364	.334
82396	0.082	.470 x 1.562	.93	.623	.488	.387	.355
10496	0.1	.470 x 1.562	1.08	.716	.56	.445	.408
12496	0.12	.545 x 1.562	1.20	.791	.619	.491	.451
15496	0.15	.545 x 1.562	1.32	.887	.694	.551	.506
18196	0.18	.590 x 1.937	1.50	1.00	.782	.621	.57
22496	0.22	.590 x 1.937	1.71	1.13	.885	.702	.644
27496	0.27	.800 x 1.937	2.25	1.507	1.179	.936	.859
33496	0.33	.800 x 1.937	2.52	1.678	1.313	1.042	.957
39496	0.39	.890 x 2.125	2.85	1.904	1.49	1.183	1.085
47496	0.47	.890 x 2.125	3.15	2.11	1.651	1.31	1.203

★1000 UP PRICES ON REQUEST

SPRAGUE Tantalum Capacitors

TYPE 109D TUBULAR SINTERED-ANODE 85° C TANTALEX® CAPACITORS

or applications requiring reliable design, such as in military equipment. Large capacitance alues in small physical size. Double spun TFE-fluorocarbon elastomer high temperature end als. Meet 2000 cycle missile vibration requirements. Operate to 85° C without voltage erating; to 105° C with 15% derating. Available as bare metal case type or with plastic eeve; tolerances, see listing below.



STOCK VALUES (±10% TOLERANCE)

6 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
09D276X9006C2*	27	C-1
09D306X9006C2*	30	C-1
09D686X9006C2‡	68	C-1
09D127X9006F2*	120	F-1
09D147X9006F2*	140	F-1
09D207X9006C2‡	200	C-3
09D277X9006F2‡	270	F-1
09D297X9006T2*	290	T-1
09D337X9006T2*	330	T-1
09D567X9006T2‡	560	T-1
09D827X9006F2‡	820	F-3
09D128X9006K2‡	1200	K-1
09D158X9006T2‡	1500	T-4
09D228X9006K2	2200	K-1

8 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
09D226X9008C2*	22	C-1
09D256X9008C2*	25	C-1
09D566X9008C2‡	56	C-1
09D107X9008F2*	100	F-1
09D127X9008F2‡	120	F-1
09D187X9008C2‡	180	C-3
09D227X9008F2‡	220	F-1
09D267X9008T2*	260	T-1
09D297X9008T2*	290	T-1
09D437X9008T2‡	430	T-1
09D687X9008F2‡	680	F-3
09D857X9008K2‡	850	K-1
09D148X9008T2‡	1400	T-4
09D188X9008K2	1800	K-1

10 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
09D186X9010C2*	18	C-1
09D206X9010C2*	20	C-1
09D476X9010C2‡	47	C-1
09D856X9010F2*	85	F-1
09D107X9010F2*	100	F-1
09D127X9010C2‡	120	C-3
09D157X9010C2‡	150	C-3
09D187X9010F2‡	180	F-1
09D227X9010T2*	220	T-1
09D257X9010T2*	250	T-1
09D397X9010T2‡	390	T-1
09D477X9010F2‡	470	F-3
09D567X9010F2‡	560	F-3
09D757X9010K2‡	750	K-1
09D108X9010T2‡	1000	T-4
09D128X9010T2‡	1200	T-4
09D128X9010K2	1200	K-1
09D158X9010K2	1500	K-1

15 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
09D136X9015C2*	13	C-1
09D156X9015C2*	15	C-1
09D336X9015C2‡	33	C-1
09D556X9015F2*	55	F-1
09D706X9015F2*	70	F-1
09D826X9015C2‡	82	C-3
09D107X9015C2‡	100	C-3
09D127X9015F2‡	120	F-1
09D157X9015T2*	150	T-1
09D177X9015T2*	170	T-1
09D277X9015T2‡	270	T-1
09D337X9015F2‡	330	F-3
09D397X9015F2‡	390	F-3
09D547X9015K2‡	540	K-1
09D687X9015T2‡	680	T-4
09D827X9015T2‡	820	T-4
09D827X9015K2	820	K-1
09D108X9015K2	1000	K-1

25 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D905X9025C2*	9	C-1
109D106X9025C2*	10	C-1
109D226X9025C2‡	22	C-1
109D456X9025F2*	45	F-1
109D506X9025F2*	50	F-1
109D686X9025C2‡	68	C-3
109D107X9025F2‡	100	F-2
109D107X9025T2*	100	T-1
109D117X9025T2*	110	T-1
109D187X9025T2‡	180	T-1
109D277X9025F2‡	270	F-3
109D357X9025K2‡	350	K-1
109D567X9025T2‡	560	T-5
109D687X9025K2	680	K-1

30 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D705X9030C2*	7	C-1
109D805X9030C2*	8	C-1
109D156X9030C2‡	15	C-1
109D356X9030F2*	35	F-1
109D396X9030C2‡	39	C-3
109D406X9030F2*	40	F-1
109D476X9030C2‡	47	C-3
109D566X9030C2‡	56	C-3
109D686X9030F2‡	68	F-1
109D806X9030T2*	80	T-1
109D107X9030T2*	100	T-1
109D157X9030F2‡	150	F-2
109D157X9030T2‡	150	T-1
109D187X9030F2‡	180	F-3
109D227X9030F2‡	220	F-3
109D307X9030K2‡	300	K-1
109D337X9030T2‡	330	T-1
109D397X9030T2‡	390	T-4
109D477X9030T2‡	470	T-4
109D477X9030K2	470	K-1
109D567X9030K2	560	K-1

50 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D455X9050C2*	4.5	C-1
109D505X9050C2*	5	C-1
109D106X9050C2‡	10	C-1
109D226X9050F2*	22	F-1
109D256X9050F2*	25	F-1
109D336X9050C2‡	33	C-3
109D476X9050F2‡	47	F-1
109D556X9050T2*	55	T-1
109D606X9050T2*	60	T-1
109D826X9050T2‡	82	T-1
109D127X9050F2‡	120	F-3
109D167X9050K2‡	160	K-1
109D277X9050T2‡	270	T-5
109D337X9050K2	330	K-1

60 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D365X9060C2*	3.6	C-2
109D405X9060C2*	4	C-2
109D825X9060C2‡	8.2	C-2
109D186X9060F2*	18	F-1
109D206X9060F2*	20	F-1
109D276X9060C2‡	27	C-3
109D396X9060F2‡	39	F-1

60 WVDC (Cont'd)

Sprague Number	Cap., µF	Case Size, Price Code†
109D456X9060T2*	45	T-1
109D506X9060T2*	50	T-1
109D686X9060F2‡	68	F-2
109D686X9060T2‡	68	T-1
109D107X9060F2‡	100	F-3
109D147X9060T2‡	140	T-2
109D147X9060K2‡	140	K-1
109D227X9060T2‡	220	T-5
109D277X9060K2	270	K-1

75 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D305X9075C2*	3	C-2
109D355X9075C2*	3.5	C-2
109D685X9075C2‡	6.8	C-2
109D126X9075C2‡	12	C-2
109D136X9075F2*	13	F-2
109D156X9075C2‡	15	C-2
109D156X9075F2*	15	F-2
109D226X9075C2‡	22	C-3
109D336X9075F2‡	33	F-2
109D356X9075T2*	35	T-1
109D406X9075T2*	40	T-1
109D476X9075F2‡	47	F-2
109D566X9075F2‡	56	F-2
109D566X9075T2‡	56	T-1
109D826X9075F2‡	82	F-3
109D826X9075T2‡	82	T-2
109D117X9075T2‡	110	T-2
109D117X9075K2‡	110	K-1
109D187X9075T2‡	180	T-5
109D187X9075K2	180	K-1
109D227X9075K2	220	K-1

100 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D255X9100C2*	2.5	C-2
109D475X9100C2‡	4.7	C-2
109D825X9100C2	8.2	C-3
109D106X9100C2	10	C-3
109D106X9100F2*	10	F-4
109D116X9100F2*	11	F-4
109D226X9100F2‡	22	F-4
109D276X9100T2*	27	T-2
109D306X9100T2*	30	T-3
109D336X9100F2	33	F-3
109D396X9100F2	39	F-3
109D436X9100T2‡	43	T-3
109D566X9100T2	56	T-4
109D686X9100T2	68	T-4
109D866X9100K2‡	86	K-1

125 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D175X9125C2*	1.7	C-2
109D365X9125C2‡	3.6	C-2
109D685X9125C2	6.8	C-3
109D905X9125F2*	9	F-4
109D146X9125F2‡	14	F-4
109D186X9125T2*	18	T-3
109D256X9125T2‡	25	T-3
109D276X9125F2	27	F-3
109D476X9125T2	47	T-5
109D566X9125K2‡	56	K-1

150 WVDC

Sprague Number	Cap., µF	Case Size, Price Code†
109D175X9150C2*	1.7	C-2
109D305X9150C2‡	3	C-2
109D565X9150C2	5.6	C-3
109D685X9150F2*	6.8	F-4
109D116X9150F2‡	11	F-4
109D146X9150T2*	14	T-3
109D226X9150T2‡	22	T-3
109D226X9150F2	22	F-3
109D396X9150T2	39	T-5

†DIMENSIONS

Case Code (Prefix)	Diameter x Length, Inches
C	0.203 x 0.515
F	0.296 x 0.703
T	0.390 x 0.828
W	0.390 x 1.312

ORDER AND PRICING INFORMATION

tock values, listed above, are for ±10% tolerance. *Also available in +20, −15% and +75, −15% tolerances. For +20, −15% olerance, change 8th and 9th digits of ordering number to **C2** (e.g., 109D276**C2**006C2); for +75, −15% tolerance, change digits to **C7** e.g., 109D276**C7**006C2). ‡Available in ±20% tolerance, to order, change digits to **X0** (e.g., 109D686**X0**006C2). Prices listed below over all stock tolerances supplied with outer plastic film insulating sleeve; to order bare metal case versions, change last digit in ordering umber to **0** (e.g., 109D686X9006C**0**, 109D276C2006C**0**, etc.), and **deduct 2¢** from prices shown.

SLEEVED UNITS PRICING FOR ±10% TOLERANCE AND ±20% TOLERANCE

† Case Size	±10% Tolerance, Net Each, Lots of					±20% Tolerance, Net Each, Lots of				
	1-24	25-49	50-99	100-249	250-499	1-24	25-49	50-99	100-249	250-499
C-1	$ 4.64	$ 3.78	$ 3.01	$ 2.24	$ 2.16	$ 4.21	$ 3.43	$ 2.73	$ 2.04	$ 1.96
C-2	5.12	4.18	3.33	2.48	2.38	4.66	3.80	3.03	2.26	2.17
C-3	5.31	4.33	3.45	2.57	2.47	4.83	3.94	3.14	2.33	2.25
F-1	8.36	6.82	5.43	4.04	3.88	7.61	6.20	4.94	3.67	3.53
F-2	9.50	7.74	6.16	4.58	4.41	8.63	7.04	5.60	4.17	4.01
F-3	12.20	9.96	7.93	5.90	5.67	11.12	9.06	7.21	5.36	5.16
F-4	11.55	9.41	7.49	5.57	5.36	10.50	8.56	6.81	5.06	4.87
K-1	28.18	22.97	18.27	13.58	13.06	25.62	20.88	16.61	12.34	11.87
T-1	14.20	11.57	9.21	6.85	6.58	12.90	10.51	8.37	6.22	5.98
T-2	14.60	11.90	9.47	7.04	6.77	13.28	10.82	8.61	6.40	6.16
T-3	16.76	13.66	10.87	8.08	7.77	15.25	12.43	9.89	7.35	7.07
T-4	18.43	15.02	11.96	8.89	8.55	16.76	13.66	10.87	8.08	7.77
T-5	21.70	17.69	14.07	10.46	10.06	19.73	16.08	12.80	9.51	9.15

TYPE CL64 AND CL65 SINTERED-ANODE MIL-C-3965 TANTALEX® CAPACITORS



Meet MIL-C-3965 specifications. Reliable to 85° C (Char. B) or 125° C (Char. C) with no voltage derating. Meets 2000-hertz MIL missile vibration requirements. Clean, shoulderless design simplifies mounting on printed wiring boards. **Type CL64,** listed, have bare metal case. For units with plastic film insulation, change prefix to **CL65** (e.g., **CL65**BB300MPE) and add **2c** to prices shown.

TYPE CL64, CHAR. B AND C, ±20% TOLERANCE STOCK ITEMS

Cap., μF	WV DC	Military Number Characteristic B	Military Number Characteristic C	Size ‡
30	6	CL64BB300MPE	CL64CB300MPE	1
68*	6	CL64BB680MPE	CL64CB680MPE	1
140	6	CL64BB141MPE	CL64CB141MPE	2
270*	6	CL64BB271MPE	CL64CB271MPE	2
330	6	CL64BB331MPE	CL64CB331MPE	3
560*	6	CL64BB561MPE	CL64CB561MPE	3
25	8	CL64BC250MPE	CL64CC250MPE	1
56*	8	CL64BC560MPE	CL64CC560MPE	1
220*	8	CL64BC221MPE	CL64CC221MPE	2
430*	8	CL64BC431MPE	CL64CC431MPE	3
20	10	CL64BD200MPE	CL64CD200MPE	1
47*	10	CL64BD470MPE	CL64CD470MPE	1
100	10	CL64BD101MPE	CL64CD101MPE	2
180*	10	CL64BD181MPE	CL64CD181MPE	2
250	10	CL64BD251MPE	CL64CD251MPE	3
390*	10	CL64BD391MPE	CL64CD391MPE	3
15	15	CL64BE150MPE	CL64CE150MPE	1
33*	15	CL64BE330MPE	CL64CE330MPE	1
70	15	CL64BE700MPE	CL64CE700MPE	2
120*	15	CL64BE121MPE	CL64CE121MPE	2
170	15	CL64BE171MPE	CL64CE171MPE	3
270*	15	CL64BE271MPE	CL64CE271MPE	3
10	25	CL64BG100MPE	CL64CG100MPE	1
22*	25	CL64BG220MPE	CL64CG220MPE	1
100*	25	CL64BG101MPE	CL64CG101MPE	2A
180*	25	CL64BG181MPE	CL64CG181MPE	3
8	30	CL64BH080MPE	CL64CH080MPE	1
15*	30	CL64BH150MPE	CL64CH150MPE	1
40	30	CL64BH400MPE	CL64CH400MPE	2
68*	30	CL64BH680MPE	CL64CH680MPE	2
100	30	CL64BH101MPE	CL64CH101MPE	3

Cap., μF	WV DC	Military Number Characteristic B	Military Number Characteristic C	Size ‡
150*	30	CL64BH151MPE	CL64CH151MPE	3
5	50	CL64BJ050MPE	CL64CJ050MPE	1
10*	50	CL64BJ100MPE	CL64CJ100MPE	1
25	50	CL64BJ250MPE	CL64CJ250MPE	2
47*	50	CL64BJ470MPE	CL64CJ470MPE	2
60	50	CL64BJ600MPE	CL64CJ600MPE	3
82*	50	CL64BJ820MPE	CL64CJ820MPE	3
4	60	CL64BK040MPE	CL64CK040MPE	1A
8.2*	60	CL64BK8R2MPE	CL64CK8R2MPE	1
20	60	CL64BK200MPE	CL64CK200MPE	2
39*	60	CL64BK390MPE	CL64CK390MPE	2
50	60	CL64BK500MPE	CL64CK500MPE	3
68*	60	CL64BK680MPE	CL64CK680MPE	3
3.5	75	CL64BL3R5MPE	CL64CL3R5MPE	1
6.8*	75	CL64BL6R8MPE	CL64CL6R8MPE	1
15	75	CL64BL150MPE	CL64CL150MPE	2
33*	75	CL64BL330MPE	CL64CL330MPE	2
40	75	CL64BL400MPE	CL64CL400MPE	3
56*	75	CL64BL560MPE	CL64CL560MPE	3
2.5	100	CL64BN2R5MPE	CL64CN2R5MPE	1
4.7*	100	CL64BN4R7MPE	CL64CN4R7MPE	1
11	100	CL64BN110MPE	CL64CN110MPE	2B
22*	100	CL64BN220MPE	CL64CN220MPE	2B
30	100	CL64BN300MPE	CL64CN300MPE	3A
43*	100	CL64BN430MPE	CL64CN430MPE	3A
1.7	125	CL64BP1R7MPE	CL64CP1R7MPE	1
3.6	125	CL64BP3R6MPE	CL64CP3R6MPE	1
9	125	CL64BP090MPE	CL64CP090MPE	2B
14	125	CL64BP140MPE	CL64CP140MPE	2B
25	125	CL64BP250MPE	CL64CP250MPE	3A

*Available in ±20% tolerance only; others also available in ±10% tolerance, to order, change third from last character in number to **K** (e.g., CL64BB300**K**PE).

TYPE CL64 DIMENSIONS AND PRICES CHARACTERISTIC B AND CHARACTERISTIC C

Size Key	Size, In. Dia. x L.	±20% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	±10% Tolerance Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
1	.188 x .453	$ 4.19	$ 3.41	$ 2.71	$ 2.02	$ 1.94	$ 4.62	$ 3.76	$ 2.99	$ 2.22	$ 2.14
1A	.188 x .453	4.64	3.78	3.01	2.24	2.15	5.10	4.16	3.31	2.46	2.36
2	.281 x .641	7.59	6.18	4.92	3.65	3.51	8.34	6.80	5.41	4.02	3.86
2A	.281 x .641	8.61	7.02	5.58	4.15	3.99	9.48	7.72	6.14	4.56	4.39
2B	.281 x .641	10.48	8.54	6.79	5.04	4.85	11.53	9.39	7.47	5.55	5.34
3	.375 x .766	12.88	10.49	8.35	6.20	5.96	14.18	11.55	9.19	6.83	6.56
3A	.375 x .766	15.23	12.41	9.87	7.33	7.05	16.74	13.64	10.85	8.06	7.75

THESE CAPACITORS ARE SUBJECT TO A PRECIOUS-METAL SURCHARGE

SPRAGUE TYPE 715P FILMITE® 'L' ORANGE DROP® CAPACITORS

Polypropylene film capacitors, similar to polystyrene units with their high alternating current carrying capability, have the added advantage of operating temperatures to 105° C and extremely low dissipation factor. The temperature coefficient is negative and virtually linear at 180 ppm/°C over the range of +25° C to +105° C. Capacity tolerance is ±5%.

Sprague Number 715P-	Cap., μF	Size, In. Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
200 WVDC							
15352JD3	.015	.375 x .75	$0.51	$0.405	$0.236	$0.189	$0.169
22352JD3	.022	.375 x .75	.51	.405	.236	.189	.169
33352JD3	.033	.425 x .75	.57	.456	.266	.213	.19
47352KD3	.047	.425 x .95	.63	.522	.305	.244	.218
68352KD3	.068	.45 x .95	.72	.585	.341	.273	.244
10452LD3	.1	.45 x 1.3	.81	.672	.392	.314	.28
15452LD3	.15	.55 x 1.3	.93	.771	.45	.36	.321
22452LD3	.22	.625 x 1.3	.99	.816	.476	.381	.34
33452MD3	.33	.65 x 1.7	1.11	.909	.53	.424	.379
47452MD3	.47	.75 x 1.7	1.11	.909	.53	.424	.379
400 WVDC							
10354JD3	.01	.40 x .75	$0.51	$0.405	$0.236	$0.189	$0.169
15354JD3	.015	.45 x .75	.57	.456	.266	.213	.19
33354KD3	.033	.50 x .95	.66	.537	.313	.251	.224
15454LD3	.15	.65 x 1.3	.99	.816	.476	.381	.34
22454MD3	.22	.70 x 1.7	1.11	.906	.529	.423	.378
33454MD3	.33	.80 x 1.7	1.56	1.278	.746	.596	.533
47454MD3	.47	.90 x 1.7	1.77	1.476	.861	.689	.615

Sprague Number 715P-	Cap., μF	Size, In. Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
600 WVDC							
10256JD3	.001	.40 x .75	$0.45	$0.369	$0.215	$0.172	$0.154
15256JD3	.0015	.40 x .75	.45	.369	.215	.172	.154
22256JD3	.0022	.40 x .75	.45	.369	.215	.172	.154
33256JD3	.0033	.40 x .75	.48	.387	.226	.181	.161
47256JD3	.0047	.45 x .75	.48	.387	.226	.181	.161
68256JD3	.0068	.45 x .75	.51	.405	.236	.189	.169
10356KD3	.01	.45 x .75	.57	.465	.271	.217	.194
15356KD3	.015	.50 x .95	.57	.465	.271	.217	.194
22356KD3	.022	.55 x .95	.63	.504	.294	.235	.21
47356LD3	.047	.60 x 1.3	.81	.672	.392	.314	.28
68356LD3	.068	.65 x 1.3	.99	.816	.476	.381	.34
10456LD3	.1	.75 x 1.3	1.11	.927	.541	.433	.386
15456MD3	.15	.75 x 1.7	1.56	1.278	.746	.596	.533
22456MD3	.22	.85 x 1.7	1.77	1.476	.861	.689	.615
800 WVDC							
15358LD3	.015	.55 x 1.3	$0.81	$0.672	$0.392	$0.314	$0.28
22358LD3	.022	.60 x 1.3	.99	.816	.476	.381	.34
33358LD3	.033	.70 x 1.3	1.26	1.05	.613	.49	.438
68358MD3	.068	.80 x 1.7	1.56	1.278	.746	.596	.533
10458MD3	.1	.90 x 1.7	2.13	1.755	1.024	.819	.731
1200 WVDC							
153512LD3	.015	.65 x 1.3	$1.26	$1.05	$0.613	$0.49	$0.438
473512MD3	.047	.85 x 1.7	1.77	1.476	.861	.689	.615
1600 WVDC							
222516LD3	.0022	.50 x 1.3	$0.81	$0.672	$0.392	$0.314	$0.28
332516LD3	.0033	.55 x 1.3	.93	.771	.45	.36	.321
472516LD3	.0047	.60 x 1.3	.93	.771	.45	.36	.321
682516LD3	.0068	.65 x 1.3	.99	.816	.476	.381	.34
103516LD3	.01	.70 x 1.3	1.26	1.032	.602	.482	.43
153516MD3	.015	.75 x 1.7	1.47	1.212	.707	.566	.505
223516MD3	.022	.85 x 1.7	2.13	1.755	1.024	.819	.731
333516MD3	.033	.95 x 1.7	2.58	2.148	1.253	1.002	.895

TYPE 500D MINIATURE METAL-CASE ALUMINUM ELECTROLYTICS

SPRAGUE

iniature metal-case aluminum electrolytic capacitors feature h voltage ratings and moderate cost. Excellent stability of pacitance, equivalent series resistance and leakage current. eids at all critical anode and cathode terminations assure edom from open circuits even when operated in the mV or range. Furnished as polar units with the cathode connected aluminum case. Designed for operation over temperature ge of −20° C to +85° C with very low equivalent series istance and leakage current. Capacitance tolerance, −10, 75%, 3 VDC thru 63 VDC; −10, +50%, 100 and 150 VDC. ailable without outer shrink-fitted insulation on request.

3 VDC WORKING, 4 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G003BA7	BA	$.756	$.525	$.42	$.315	$.263	$.231
2	205G003BA7	BA	.756	.525	.42	.315	.263	.231
3	305G003BA7	BA	.756	.525	.42	.315	.263	.231
4	405G003BA7	BA	.756	.525	.42	.315	.263	.231
5	505G003BA7	BA	.756	.525	.42	.315	.263	.231
6	605G003BA7	BA	.756	.525	.42	.315	.263	.231
8	805G003BA7	BA	.756	.525	.42	.315	.263	.231
10	106G003BA7	BA	.756	.525	.42	.315	.263	.231
15	156G003BA7	BA	.756	.525	.42	.315	.263	.231
20	206G003BA7	BA	.756	.525	.42	.315	.263	.231
25	256G003BA7	BA	.756	.525	.42	.315	.263	.231
30	306G003BA7	BA	.756	.525	.42	.315	.263	.231
50	506G003BB7	BB	.785	.545	.436	.326	.276	.240
65	656G003BB7	BB	.785	.545	.436	.326	.276	.240
75	756G003CB7	CB	.806	.560	.448	.336	.280	.246
00	107G003CB7	CB	.806	.560	.448	.336	.280	.246
30	137G003CB7	CB	.806	.560	.448	.336	.280	.246
50	157G003CC7	CC	.821	.570	.456	.342	.285	.251
00	207G003CC7	CC	.821	.570	.456	.343	.285	.251
50	257G003DC7	DC	.886	.615	.492	.369	.308	.271
00	307G003DC7	DC	.886	.615	.492	.369	.308	.271
00	407G003DD7	DD	.911	.633	.506	.380	.316	.278
00	507G003DF7	DF	.997	.693	.554	.416	.346	.305
00	607G003DF7	DF	.997	.693	.554	.416	.346	.305
00	807G003DH7	DH	1.055	.733	.586	.440	.366	.322
00	907G003EF7	EF	1.037	.720	.576	.432	.360	.317
00	108G003EH7	EH	1.062	.738	.590	.443	.369	.325
00	128G003EH7	EH	1.062	.738	.590	.443	.369	.325
00	158G003FH7	FH	1.382	.960	.768	.567	.480	.422
00	188G003FH7	FH	1.382	.960	.768	.576	.480	.422
00	208G003FH7	FH	1.382	.960	.768	.576	.480	.422
00	228G003FK7	FK	1.469	1.020	.816	.612	.510	.449
00	258G003FK7	FK	1.469	1.020	.816	.612	.510	.449

6 VDC WORKING, 8 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G006BA7	BA	$.756	$.525	$.42	$.315	$.263	$.231
2	205G006BA7	BA	.756	.525	.42	.315	.263	.231
3	305G006BA7	BA	.756	.525	.42	.315	.263	.231
4	405G006BA7	BA	.756	.525	.42	.315	.263	.231
5	505G006BA7	BA	.756	.525	.42	.315	.263	.231
6	605G006BA7	BA	.756	.525	.42	.315	.263	.231
8	805G006BA7	BA	.756	.525	.42	.315	.263	.231
10	106G006BA7	BA	.756	.525	.42	.315	.263	.231
15	156G006BA7	BA	.756	.525	.42	.315	.263	.231
20	206G006BA7	BA	.756	.525	.42	.315	.263	.231
25	256G006BB7	BB	.756	.526	.420	.315	.263	.231
35	356G006BB7	BB	.756	.526	.420	.315	.263	.231
50	506G006BB7	BB	.756	.526	.420	.315	.263	.231
68	686H006BB7	BB	.785	.545	.436	.327	.273	.240
75	756G006CB7	CB	.806	.560	.448	.336	.280	.246
90	906G006CB7	CB	.806	.560	.448	.336	.280	.246
00	107G006CC7	CC	.821	.570	.456	.342	.285	.251
40	147G006CC7	CC	.821	.570	.456	.342	.285	.251
50	157G006DC7	DC	.886	.615	.492	.369	.308	.271
50	157H006CB7	CB	.670	.465	.372	.279	.233	.205
00	207G006DC7	DC	.886	.615	.492	.369	.308	.271
20	227H006CC7	CC	.684	.475	.380	.285	.238	.209
50	257G006DD7	DD	.911	.633	.506	.380	.316	.278
00	307G006DD7	DD	.911	.633	.506	.380	.316	.278
30	337H006DC7	DC	.886	.615	.492	.369	.308	.271
00	407G006DF7	DF	.997	.693	.554	.416	.346	.305
70	477H006DD7	DD	.911	.633	.506	.380	.316	.278
00	507G006DH7	DH	1.055	.733	.586	.440	.366	.322
00	607G006DH7	DH	1.055	.733	.586	.440	.366	.322
80	687H006DF7	DF	.997	.693	.554	.416	.346	.305
00	707G006EF7	EF	1.037	.720	.576	.432	.360	.317
00	807G006EH7	EH	1.062	.738	.590	.443	.369	.325
50	957G006EH7	EH	1.062	.738	.590	.443	.369	.325
00	108G006FF7	FF	1.202	.835	.668	.501	.418	.376
00	108H006DH7	DH	1.055	.733	.586	.440	.366	.322
00	128G006FH7	FH	1.382	.960	.768	.576	.480	.422
00	158G006FH7	FH	1.382	.960	.768	.576	.480	.422
00	158H006EH7	EH	1.062	.738	.590	.443	.369	.325
00	188G006FK7	FK	1.469	1.020	.816	.612	.510	.449
00	208G006FK7	FK	1.469	1.020	.816	.612	.510	.449
00	228H006FK7	FK	1.469	1.020	.816	.612	.510	.449

12 VDC WORKING, 15 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G012BA7	BA	$.756	$.525	$.42	$.315	$.263	$.231
2	205G012BA7	BA	.756	.525	.42	.315	.263	.231
3	305G012BA7	BA	.756	.525	.42	.315	.263	.231
4	405G012BA7	BA	.756	.525	.42	.315	.263	.231
5	505G012BA7	BA	.756	.525	.42	.315	.263	.231
6	605G012BA7	BA	.756	.525	.42	.315	.263	.231

12 VDC (CONT'D)

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
8	805G012BA7	BA	$.765	$.525	$.42	$.315	$.263	$.231
10	106G012BA7	BA	.756	.525	.42	.315	.263	.231
15	156G012BA7	BA	.756	.525	.42	.315	.263	.231
20	206G012BB7	BB	.785	.545	.436	.327	.273	.240
25	256G012BB7	BB	.785	.545	.436	.327	.273	.240
30	306G012BB7	BB	.785	.545	.436	.327	.273	.240
50	506G012CB7	CB	.806	.560	.448	.336	.280	.240
60	606G012CB7	CB	.806	.560	.448	.336	.280	.240
75	756G012CC7	CC	.821	.570	.456	.342	.285	.251
90	906G012DB7	DB	.842	.585	.468	.351	.293	.257
100	107G012CC7	CC	.821	.570	.456	.342	.285	.251
140	147G012DC7	DC	.886	.615	.492	.369	.308	.271
150	157G012DD7	DD	.911	.633	.506	.380	.316	.278
190	197G012DD7	DD	.911	.633	.506	.380	.316	.278
200	207G012DF7	DF	.997	.693	.554	.416	.346	.305
250	257G012DF7	DF	.997	.693	.554	.416	.346	.305
290	297G012DF7	DF	.997	.693	.554	.416	.346	.305
390	397G012DH7	DH	1.055	.733	.586	.440	.366	.322
400	407G012EF7	EF	1.037	.720	.576	.432	.360	.316
450	457G012EF7	EF	1.037	.720	.576	.432	.360	.316
500	507G012EH7	EH	1.062	.738	.590	.443	.369	.325
600	607G012EH7	EH	1.062	.738	.590	.443	.369	.325
800	807G012FH7	FH	1.382	.960	.768	.576	.480	.422
1200	128G012FK7	FK	1.523	1.058	.846	.635	.529	.465

16 VDC WORKING, 20 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G016BA7	BA	$.756	$.525	$.42	$.315	$.263	$.231
2	205G016BA7	BA	.756	.525	.42	.315	.263	.231
3	305G016BA7	BA	.756	.525	.42	.315	.263	.231
4	405G016BA7	BA	.756	.525	.42	.315	.263	.231
5	505G016BA7	BA	.756	.525	.42	.315	.263	.231
6	605G016BA7	BA	.756	.525	.42	.315	.263	.231
8	805G016BA7	BA	.756	.525	.42	.315	.263	.231
10	106G016BA7	BA	.756	.525	.420	.315	.263	.231
15	156G016BB7	BB	.756	.525	.420	.315	.263	.231
20	206G016BB7	BB	.756	.525	.420	.315	.263	.231
22	226H016BA7	BA	.756	.525	.420	.315	.263	.231
25	256G016BB7	BB	.806	.560	.448	.336	.280	.246
30	306G016CB7	CB	.806	.560	.448	.336	.280	.246
35	356G016CB7	CB	.785	.545	.436	.327	.273	.240
47	476H016BB7	BB	.806	.560	.448	.336	.280	.246
50	506G016CB7	CB	.821	.570	.456	.342	.285	.251
75	756G016CC7	CC	.842	.585	.468	.351	.293	.257
85	856G016DB7	DB	.821	.570	.456	.342	.285	.251
90	906G016CC7	CC	.886	.615	.492	.369	.308	.271
100	107G016DC7	DC	.806	.560	.448	.336	.280	.246
100	107H016CB7	CB	.886	.615	.492	.369	.308	.271
130	137G016DC7	DC	.821	.570	.456	.342	.285	.251
150	157G016DD7	DD	.806	.560	.448	.336	.280	.246
150	157H016CC7	CC	.911	.633	.506	.380	.316	.278
180	187G016DD7	DD	.997	.693	.554	.416	.346	.305
200	207G016DF7	DF	.886	.615	.492	.369	.308	.271
220	227H016DC7	DC	.911	.633	.506	.380	.316	.278
250	257G016DF7	DF	.886	.615	.492	.369	.308	.271
300	307G016DH7	DH	.997	.693	.554	.416	.346	.305
330	337H016DD7	DD	1.055	.733	.586	.440	.366	.322
350	357G016DH7	DH	.911	.615	.492	.369	.308	.271
400	407G016EF7	EF	1.037	.720	.576	.432	.360	.317
450	457G016EH7	EH	1.062	.738	.590	.443	.369	.325
470	477H016DF7	DF	.997	.693	.554	.416	.346	.305
500	507G016EH7	EH	1.062	.738	.590	.443	.369	.325
600	607G016EH7	EH	1.062	.738	.590	.443	.369	.325
680	687H016DH7	DH	1.055	.733	.586	.440	.366	.322
800	807G016FH7	FH	1.382	.960	.768	.576	.480	.422
1000	108G016FK7	FK	1.469	1.020	.861	.621	.510	.449
1000	108H016EH7	EH	1.055	.733	.586	.440	.366	.322
1200	128G016FK7	FK	1.469	1.020	.861	.621	.510	.449
1500	158H016FK7	FK	1.469	1.020	.861	.621	.510	.449

25 VDC WORKING, 35 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
1	105G025BA7	BA	$.756	$.525	$.42	$.315	$.263	$.231
2	205G025BA7	BA	.756	.525	.42	.315	.263	.231
3	305G025BA7	BA	.756	.525	.42	.315	.263	.231
4	405G025BA7	BA	.756	.525	.42	.315	.263	.231
5	505G025BA7	BA	.756	.525	.42	.315	.263	.231
6	605G025BA7	BA	.756	.525	.42	.315	.263	.231
8	805G025BA7	BA	.756	.525	.42	.315	.263	.231
10	106G025BB7	BB	.785	.545	.436	.327	.273	.240
15	156G025BB7	BB	.785	.545	.436	.327	.273	.240
15	156H025BA7	BA	.756	.525	.420	.315	.263	.231
20	206G025CB7	CB	.806	.560	.448	.336	.280	.246
25	256G025CB7	CB	.806	.560	.448	.336	.280	.246
30	306G025CB7	CB	.806	.560	.448	.336	.280	.246
33	336H025BB7	BB	.785	.545	.436	.327	.273	.240
35	356G025CB7	CB	.806	.560	.448	.336	.280	.246
50	506G025CC7	CC	.821	.570	.456	.342	.285	.251
68	686H025CB7	CB	.806	.560	.448	.336	.280	.246
75	756G025DC7	DC	.886	.615	.492	.369	.308	.271

*CASE SIZES

Case Code	Size, Inches Dia.	Lgth.	Case Code	Size, Inches Dia.	Lgth.
BA	.260	.536	DF	.385	1.286
BB	.260	.723	DH	.385	1.536
CB	.322	.723	EF	.448	1.286
CC	.322	.848	EH	.448	1.536
DB	.385	.723	FF	.510	1.286
DC	.385	.848	FH	.510	1.536
DD	.385	.973	FJ	.510	1.786

TYPE 500D CONTINUED ON THE FOLLOWING PAGE

TYPE 500D ELECTROLYTIC CAPACITORS (CONT'D)

25 VDC (CONT'D)

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-999
100	107G025DD7	DD	$.911	$.633	$.506	$.380	$.316	$.278
100	107M025CC7	CC	.821	.570	.456	.342	.285	.251
150	157G025DF7	DF	.997	.693	.554	.416	.346	.305
150	157M025DC7	DC	.886	.615	.492	.369	.308	.271
200	207G025DH7	DH	1.055	.733	.586	.440	.366	.322
220	227M025DD7	DD	.911	.633	.506	.380	.316	.278
250	257G025EF7	EF	1.037	.720	.576	.432	.360	.317
300	307G025EH7	EH	1.062	.738	.590	.443	.369	.325
330	337M025DF7	DF	.997	.693	.554	.416	.346	.305
350	357G025EH7	EH	1.062	.738	.590	.443	.369	.325
400	407G025FF7	FF	1.339	.930	.744	.558	.465	.409
450	457G025FH7	FH	1.382	.960	.768	.576	.480	.422
500	507G025FH7	FH	1.382	.960	.768	.576	.480	.422
600	607G025FK7	FK	1.469	1.020	.816	.612	.510	.449
1000	108M025FK7	FK	1.469	1.020	.816	.612	.510	.447

35 VDC WORKING, 46 VDC SURGE

10	106H035BA7	BA	$.756	$.525	$.420	$.315	$.263	$.231
22	226H035BB7	BB	.785	.545	.436	.327	.273	.240
47	476H035CB7	CB	.806	.560	.448	.336	.280	.246
68	686H035CC7	CC	.821	.570	.456	.342	.285	.251
150	157M035DD7	DD	.911	.633	.506	.380	.316	.278
220	227M035DF7	DF	.785	.545	.436	.327	.273	.240
470	477H035EH7	EH	1.062	.738	.590	.443	.396	.325
680	687H035FK7	FK	1.469	1.020	.816	.612	.510	.449

50 VDC WORKING, 65 VDC SURGE

1	105G050BA7	BA	$.756	$.525	$.420	$.315	$.263	$.231
2	205G050BA7	BA	.756	.525	.420	.315	.263	.231
3	305G050BA7	BA	.756	.525	.420	.315	.263	.231
3.3	335H050BA7	BA	.756	.525	.420	.315	.263	.231
4	405G050BA7	BA	.756	.525	.420	.315	.263	.231
4.7	475H050BA7	BA	.756	.525	.420	.315	.263	.231
5	505G050BB7	BB	.785	.545	.436	.327	.273	.240
6	605G050BB7	BB	.785	.545	.436	.327	.273	.240
6.8	685H050BA7	BA	.756	.525	.436	.315	.263	.231
8	805G050BB7	BB	.785	.545	.436	.327	.263	.231
10	106G050CB7	CB	.806	.560	.448	.336	.280	.246
10	106H050BB7	BB	.785	.545	.436	.327	.273	.240
15	156G050CB7	CB	.806	.560	.448	.336	.280	.246
15	156H050BB7	BB	.785	.545	.438	.327	.273	.240
20	206G050CC7	CC	.821	.570	.456	.342	.285	.251
22	226H050CB7	CB	.806	.560	.448	.336	.280	.246
25	256G050CC7	CC	.821	.570	.456	.342	.285	.251
33	336H050CB7	CB	.806	.560	.448	.336	.280	.246
35	356G050DC7	DC	.886	.615	.492	.369	.308	.271
47	476H050CC7	CC	.821	.570	.456	.342	.285	.251
50	506G050DD7	DD	.911	.633	.506	.380	.316	.278
68	686H050DC7	DC	.886	.615	.492	.369	.308	.271
75	756G050DF7	DF	.997	.693	.554	.416	.346	.305
100	107G050DH7	DH	1.055	.733	.586	.440	.366	.322
100	107H050DD7	DD	.911	.633	.506	.380	.316	.278
120	127G050EF7	EF	1.037	.720	.576	.432	.360	.317
150	157G050EH7	EH	1.062	.738	.590	.443	.369	.325
150	157H050DF7	DF	.997	.693	.554	.416	.346	.305
200	207G050FF7	FF	1.339	.930	.744	.558	.465	.409
220	227H050DH7	DH	1.055	.733	.586	.440	.366	.322
250	257G050FF7	FF	1.339	.930	.744	.558	.465	.409
300	307G050FH7	FH	1.382	.960	.768	.576	.480	.442
330	337H050EH7	EH	1.062	.738	.590	.443	.369	.325
350	357G050FK7	FK	1.469	1.020	.816	.612	.510	.449
400	407G050FK7	FK	1.469	1.020	.816	.612	.510	.449
470	477H050FK7	FK	1.469	1.020	.816	.612	.510	.449

63 VDC WORKING, 80 VDC SURGE

1	105H063BA7	BA	$.756	$.525	$.420	$.315	$.263	$.231
1.5	155H063BA7	BA	.756	.525	.420	.315	.263	.231
2.2	225H063BA7	BA	.756	.525	.420	.315	.263	.231
3.3	335H063BB7	BB	.785	.545	.436	.327	.273	.240
4.7	475H063BB7	BB	.785	.545	.436	.327	.273	.240
6.8	685H063BB7	BB	.785	.545	.436	.327	.273	.240
10	106H063CB7	CB	.806	.560	.448	.336	.280	.246
15	156H063CB7	CB	.806	.560	.448	.336	.280	.246
22	226H063CC7	CC	.821	.570	.456	.342	.285	.251
33	336H063CC7	CC	.821	.570	.456	.342	.285	.251
47	476H063DC7	DC	.886	.615	.492	.369	.308	.271
68	686H063DF7	DF	.997	.693	.554	.416	.346	.305
100	107H063DH7	DH	1.055	.733	.586	.440	.366	.322
150	157H063EF7	EF	1.037	.720	.576	.432	.360	.317
220	227H063FH7	FH	1.382	.960	.768	.576	.480	.422
330	337H063FK7	FK	1.469	1.020	.816	.612	.510	.499

100 VDC WORKING, 125 VDC SURGE

1	105F100BA7	BA	$.835	$.580	$.464	$.348	$.290	$.255
2	205F100BB7	BB	.864	.600	.480	.360	.300	.264
3	305F100CB7	CB	.889	.618	.494	.371	.309	.272
4	405F100CB7	CB	.889	.618	.494	.371	.309	.272
5	505F100CC7	CC	.904	.628	.502	.377	.314	.276
6	605F100CC7	CC	.904	.628	.502	.377	.314	.276
8	805F100DC7	DC	.976	.678	.542	.407	.339	.298
10	106F100DC7	DC	.976	.678	.542	.407	.339	.298
15	156F100DD7	DD	1.001	.695	.556	.417	.348	.306
20	206F100DF7	DF	1.098	.763	.610	.458	.381	.336
25	256F100DH7	DH	1.159	.805	.644	.483	.403	.354
30	306F100DH7	DH	1.159	.805	.644	.483	.403	.354
40	406F100EH7	EH	1.260	.875	.700	.525	.438	.385
50	506F100FH7	FH	1.519	1.055	.844	.633	.528	.464
60	606F100FH7	FH	1.519	1.055	.844	.633	.528	.464
75	756F100FK7	FK	1.750	1.215	.972	.729	.608	.535

150 VDC WORKING, 175 VDC SURGE

µF	Sprague No. 500D-	Case Code *	Net Each, Lots of 1-24	25-49	50 Up	100-249	250-499	500-99
1	105F150BA7	BA	$.835	$.580	$.464	$.348	$.290	$.2
2	205F150BB7	BB	.864	.600	.480	.360	.300	.2
3	305F150CB7	CB	.889	.618	.494	.371	.309	.2
4	405F150CC7	CC	.904	.628	.502	.377	.314	.2
5	505F150CC7	CC	.904	.628	.502	.377	.314	.2
6	605F150DC7	DC	.976	.678	.542	.407	.339	.2
7	705F150DC7	DC	.976	.678	.542	.407	.339	.2
8	805F150DC7	DC	.976	.678	.542	.407	.339	.2
10	106F150DD7	DD	1.001	.695	.556	.417	.348	.2
15	156F150DF7	DF	1.098	.763	.610	.458	.381	.3
20	206F150DH7	DH	1.159	.805	.644	.483	.403	.3
25	256F150EF7	EF	1.141	.793	.634	.476	.396	.3
30	306F150EH7	EH	1.260	.875	.700	.525	.438	.3
35	356F150FH7	FH	1.519	1.055	.844	.633	.528	.4
40	406F150FH7	FH	1.519	1.055	.844	.633	.528	.4
50	506F150FK7	FK	1.750	1.215	.972	.729	.608	.5

200 VDC WORKING, 250 VDC SURGE

1	105F200BB7	BB	$.864	$.600	$.480	$.360	$.300	$.2
2	205F200CB7	CB	.889	.618	.494	.371	.309	.2
3	305F200CC7	CC	.904	.628	.502	.377	.314	.2
4	405F200DC7	DC	.976	.678	.542	.407	.339	.2
5	505F200DC7	DC	.976	.678	.542	.407	.339	.2
6	605F200DD7	DD	1.001	.695	.556	.419	.348	.3
8	805F200DF7	DF	1.098	.763	.610	.458	.381	.3
10	106F200DF7	DF	1.098	.763	.610	.458	.381	.3
15	156F200EF7	EF	1.141	.793	.634	.476	.396	.3
20	206F200EH7	EH	1.260	.875	.700	.525	.438	.3
25	256F200FH7	FH	1.519	1.055	.844	.633	.528	.4
30	306F200FK7	FK	1.750	1.215	.972	.729	.608	.5

250 VDC WORKING, 300 VDC SURGE

1	105F250CB7	CB	$.889	$.618	$.494	$.371	$.309	$.2
2	205F250DB7	DB	.929	.645	.516	.387	.323	.2
3	305F250DC7	DC	.976	.678	.542	.407	.339	.2
4	405F250DD7	DD	1.001	.659	.556	.417	.348	.3
5	505F250DF7	DF	1.098	.763	.610	.458	.381	.3
6	605F250DF7	DF	1.098	.763	.610	.458	.381	.3
8	805F250DH7	DH	1.159	.805	.644	.483	.403	.3
10	106F250EF7	EF	1.141	.793	.634	.476	.396	.3
12	126F250EH7	EH	1.260	.875	.700	.525	.438	.3
15	156F250FH7	FH	1.519	1.055	.844	.633	.528	.4
20	206F250FK7	FK	1.750	1.215	.972	.729	.608	.5

300 VDC WORKING, 350 VDC SURGE

1	105F300CB7	CB	$.889	$.618	$.494	$.371	$.309	$.2
2	205F300DC7	DC	.976	.678	.542	.407	.339	.2
3	305F300DD7	DD	1.001	.695	.556	.417	.348	.3
4	405F300DF7	DF	1.098	.763	.610	.458	.381	.3
5	505F300DF7	DF	1.098	.763	.610	.458	.381	.3
6	605F300DH7	DH	1.159	.805	.644	.483	.403	.3
8	805F300EH7	EH	1.260	.875	.700	.525	.438	.3
10	106F300EH7	EH	1.260	.875	.700	.525	.438	.3
12	126F300FH7	FH	1.519	1.055	.844	.633	.528	.4
15	156F300FH7	FH	1.750	1.215	.972	.729	.608	.5
20	206F300FK7	FK						

350 VDC WORKING, 400 VDC SURGE

1	105F350CC7	CC	$.904	$.628	$.502	$.377	$.314	$.2
2	205F350DC7	DC	.976	.678	.542	.407	.339	.2
3	305F350DD7	DD	1.001	.695	.556	.417	.348	.3
4	405F350DF7	DF	1.098	.763	.610	.458	.381	.3
5	505F350DH7	DH	1.159	.805	.644	.483	.403	.3
6	605F350DH7	DH	1.159	.805	.644	.483	.403	.3
8	805F350EH7	EH	1.260	.875	.700	.525	.438	.3
10	106F350FH7	FH	1.519	1.055	.844	.633	.528	.4
12	126F350FH7	FH	1.519	1.055	.844	.633	.528	.4
15	156F350FK7	FK	1.750	1.215	.972	.729	.608	.5

400 VDC WORKING, 475 VDC SURGE

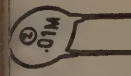
1	105F400DC7	DC	$.976	$.678	$.542	$.407	$.339	$.2
2	205F400DF7	DF	1.098	.763	.610	.458	.381	.3
3	305F400DH7	DH	1.159	.805	.644	.483	.403	.3
4	405F400EF7	EF	1.141	.793	.634	.476	.396	.3
5	505F400EH7	EH	1.260	.875	.700	.525	.438	.3
6	605F400FF7	FF	1.472	1.023	.818	.614	.511	.4
8	805F400FH7	FH	1.519	1.055	.844	.633	.528	.4
10	106F400FK7	FK	1.750	1.215	.972	.729	.608	.5
12	126F400FK7	FK	1.750	1.215	.972	.729	.608	.5

450 VDC WORKING, 525 VDC SURGE

1	105F450DC7	DC	$.976	$.678	$.542	$.407	$.339	$.2
2	205F450DF7	DF	1.098	.763	.610	.458	.381	.3
3	305F450EF7	EF	1.141	.793	.634	.476	.396	.3
4	405F450EH7	EH	1.260	.875	.700	.525	.438	.3
5	505F450FF7	FF	1.472	1.023	.818	.614	.511	.4
6	605F450FH7	FH	1.519	1.055	.844	.633	.528	.4
8	805F450FK7	FK	1.750	1.215	.972	.729	.608	.5
10	106F450FK7	FK	1.750	1.215	.972	.729	.608	.5

*CASE SIZES LISTED ON THE PREVIOUS PAGE

CERA-MITE® CERAMIC CAPACITORS



Tiny, tough and dependable. Fine replacement for molded micas and tubular ceramics. Heavy moisture-proof insulating coat. For 85° C use. Std. Tol.: ±20% except as indicated.

GENERAL APPLICATION

Extra small for use anywhere. Ideal where TC is not important.

100 WVDC

Sprague No.	pF	Net Ea.
G-D50	5000	$0.18
G-S10	10,000	.18
G-S20	20,000	.21
G-S50	50,000	.78
G-P10	100,000	1.17

500 WVDC

GAS-S10	10,000	$0.27
HK-SS10	10,000	.24
HK-S15	15,000	.30
GAS-S20	20,000	.33
HK-S20	20,000	.30
GA-S25	25,000	.36
HK-S25	25,000	.33
HK-S40	40,000	1.11
GA-S50	50,000	.63
HK-S50	50,000	1.17
GA-P10	100,000	1.56
HK-P10	100,000	1.35

1000 WVDC

GA-V50	5	$0.18
GA-V75	7.5	.18
GA-Q10	10	.18
GA-Q12	12	.18
GA-Q15	15	.18
GA-Q20	20	.18
GA-Q22	22	.18
GA-Q25	25	.18
GA-Q27	27	.18
GA-Q30	30	.18
GA-Q33	33	.18
GA-Q39	39	.18
GA-Q47	47	.18
GA-Q50	50	.18
GA-Q56	56	.18
GA-Q68	68	.18
GA-Q75	75	.18
GA-Q82	82	.21
GA-T10	100	.21
GA-T12	120	.21
GA-T15	150	.21
GA-T18	180	.21
GA-T20	200	.21
GA-T22	220	.21
GA-T25	250	.21
GA-T27	270	.21
GA-T30	300	.21
GA-T33	330	.21
GA-T36	360	.21
GA-T39	390	.21
GA-T47	470	.21
GA-T50	500	.21
GA-T56	560	.18
GA-T68	680	.18
GA-T75	750	.18
GA-T82	820	.18
GA-D10	1000	.18
GA-D12	1200	.18
GA-D15	1500	.18
GA-D18	1800	.18
GA-D20	2000	.18
GA-D22	2200	.18
GA-D25	2500	.18
GA-D27	2700	.18
GA-D30	3000	.18
GA-D33	3300	.18
GA-D39	3900	.18
GA-D47	4700	.21
GA-D50	5000	.21
GA-D68	6800	.21
GA-D82	8200	.24
GA-S10	10,000	.24
GA-S15	15,000	.36
GA-S20	20,000	.39

3000 WVDC

Sprague No.	pF	Net Ea.
30GA-Q10	10	$0.33
30GA-Q12	12	.33
30GA-Q15	15	.33
30GA-Q18	18	.33
30GA-Q22	22	.33
30GA-Q27	27	.33
30GA-Q33	33	.33
30GA-Q39	39	.33
30GA-Q47	47	.33
30GA-Q56	56	.33
30GA-Q68	68	.33
30GA-Q82	82	.33
30GA-T10	100	.33
30GA-T12	120	.33
30GA-T15	150	.33
30GA-T18	180	.33
30GA-T22	220	.33
30GA-T27	270	.33
30GA-T33	330	.33
30GA-T39	390	.33
30GA-T47	470	.33
30GA-T56	560	.33
30GA-T68	680	.33
30GA-T82	820	.33
30GA-D10	1000	.33
30GA-D12	1200	.33
30GA-D15	1500	.36
30GA-D22	2200	.36
30GA-D27	2700	.48
30GA-D33	3300	.57
30GA-D39	3900	.57
30GA-D47	4700	.63
30GA-D68	6800	.78
30GA-D82	8200	.90
30GA-S10	10,000	1.20

6000 WVDC

60GA-Q10	10	.93
60GA-Q12	12	.93
60GA-Q15	15	.93
60GA-Q18	18	.93
60GA-Q22	22	.93
60GA-Q27	27	.93
60GA-Q33	33	.93
60GA-Q39	39	.93
60GA-Q47	47	.93
60GA-Q56	56	.93
60GA-Q68	68	.93
60GA-Q82	82	.93
60GA-T10	100	.93
60GA-T12	120	.93
60GA-T15	150	.93
60GA-T18	180	.93
60GA-T22	220	.93
60GA-T27	270	.93
60GA-T33	330	.93
60GA-T39	390	.93
60GA-T47	470	.93
60GA-T56	560	.93
60GA-T68	680	.93
60GA-T82	820	.93
60GA-D10	1000	.93
60GA-D12	1200	1.05
60GA-D15	1500	1.14
60GA-D22	2200	1.59
60GA-D27	2700	1.59
60GA-D33	3300	1.59
60GA-D39	3900	1.59
60GA-D47	4700	1.59

7500 WVDC

75GA-Q10	10	.99
75GA-Q12	12	.99
75GA-Q15	15	.99
75GA-Q18	18	.99
75GA-Q22	22	.99
75GA-Q33	33	.99
75GA-Q47	47	.99
75GA-Q56	56	.99
75GA-T10	100	.99
75GA-T22	220	.99
75GA-T47	470	.99
75GA-T56	560	.99
75GA-T68	680	.99
75GA-T82	820	.99
75GA-D10	1000	1.10
75GA-D12	1200	1.35
75GA-D15	1500	1.89
75GA-D18	1800	1.89
75GA-D20	2000	1.89
75GA-D22	2200	1.89
75GA-D25	2500	1.89

TEMPERATURE-STABLE

Used where minimum capacitance change with temperature is an important consideration. Rated 1000 WVDC. Std. Tol., ±10%.

Sprague No.	pF	Net Ea.
10TS-V33	3.3	$0.18
10TS-V50	5	.18
10TS-Q10	10	.18
10TS-Q15	15	.18
10TS-Q18	18	.18
10TS-Q20	20	.18
10TS-Q22	22	.18
10TS-Q25	25	.18
10TS-Q30	30	.18
10TS-Q33	33	.18
10TS-Q39	39	.18
10TS-Q47	47	.21
10TS-Q50	50	.21
10TS-Q68	68	.21
10TS-Q75	75	.21
10TS-T10	100	.21
10TS-T12	120	.21
10TS-T15	150	.21
10TS-T18	180	.21
10TS-T20	200	.21
10TS-T22	220	.21
10TS-T25	250	.21
10TS-T27	270	.21
10TS-T30	300	.21
10TS-T33	330	.21
10TS-T39	390	.21
10TS-T47	470	.21
10TS-T50	500	.21
10TS-T56	560	.21
10TS-T68	680	.21
10TS-T82	820	.21
10TS-D10	1000	.24
10TS-D15	1500	.27
10TS-D20	2000	.39
10TS-D22	2200	.39
10TS-D25	2500	.45
10TS-D27	2700	.45
10TS-D30	3000	.45
10TS-D33	3300	.45
10TS-D39	3900	.60
10TS-D40	4000	.60
10TS-D47	4700	.75
10TS-D56	5600	.75

AC DISC CERAMICS

For AC line bypass uses. Rated 125 VAC or 1400 VDC.

Sprague No.	pF	Net Ea.
125L-D10	.001	$0.57
125L-D15	.0015	.60
125L-D20	.002	.60
125L-D47	.0047	.84
125L-D50	.005	.84
125L-S10	.01	1.20
125L-S20	.02	3.90

HYPERCON® CERAMIC DISCS

Ultra-miniature discs for transistorized circuitry, bypass and coupling. Especially suited for any low voltage use where high capacitance and low power factors are important. Std. Tol.: HY-420–HY-470 and HY-510–HY-550, +80 −20%; all others +50 −20%.

Sprague No.	µF	WVDC	Net Each
TOLERANCE +80, −20%			
HY-520	.01	25	$0.24
HY-522	.015	25	.24
HY-525	.022	25	.24
HY-530	.033	25	.27
HY-535	.047	25	.27
HY-538	.05	25	.27
HY-540	.068	25	.27
HY-550	.1	25	.33
HY-565	.15	25	.42
TOLERANCE +50, −20%			
HY-715	.01	25	$0.24
HY-720	.015	25	.24
HY-725	.022	25	.24
HY-730	.033	25	.27
HY-735	.047	25	.27
HY-738	.05	25	.27
HY-740	.068	25	.27
HY-750	.1	25	.33
HY-765	.15	25	.42
TOLERANCE ±20%			
HY-820	.01	25	$0.21
HY-822	.015	25	.27
HY-825	.022	25	.27
HY-830	.033	25	.27
HY-835	.047	25	.30
HY-838	.05	25	.30
HY-840	.068	25	.30
HY-850	.1	25	.36
HY-865	.15	25	.48

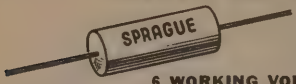
NPO (DISCS)

Zero temperature coefficient capacitors used where capacitance change with temperature is undesirable. Superior to silvered-mica types in stability, high "Q" and insulation resistance. Rated 1000 WVDC. Std. Tol.: ±5%, 12 pF up; all others ±0.5 pF.

Sprague No.	pF	Net Each
10TCC-V22	2.2	$0.36
10TCC-V27	2.7	.36
10TCC-V30	3.0	.36
10TCC-V33	3.3	.36
10TCC-V39	3.9	.36
10TCC-V47	4.7	.36
10TCC-V50	5.0	.36
10TCC-V56	5.6	.36
10TCC-V68	6.8	.36
10TCC-V82	8.2	.36
10TCC-Q10	10	.36
10TCC-Q12	12	.36
10TCC-Q15	15	.36
10TCC-Q18	18	.39
10TCC-Q20	20	.39
10TCC-Q22	22	.39
10TCC-Q25	25	.39
10TCC-Q27	27	.39
10TCC-Q30	30	.39
10TCC-Q33	33	.48
10TCC-Q39	39	.48
10TCC-Q47	47	.48
10TCC-Q50	50	.48
10TCC-Q56	56	.48
10TCC-Q68	68	.57
10TCC-Q82	82	.81
10TCC-T10	100	.81
10TCC-T12	120	.81
10TCC-T15	150	.93
10TCC-T18	180	1.11
10TCC-T22	220	1.26
10TCC-T27	270	1.53

SPRAGUE Tantalum Capacitors

TYPE CS12 AND CS13 SOLID ELECTROLYTE MIL-C-26655 TUBULAR TANTALUMS



MIL version of industrial type 150D. Hermetically sealed miniatures will not seep even if seal is broken. **Temperature Range:** −80° C to +65° C; to +125° C with voltage derating. **Tolerance:** ±10% unless otherwise noted. Type **CS13**, insulated sleeve (listed); **CS12**, without sleeve. To Order: Change prefix CS13 to **CS12**; deduct **1c** from price.

6 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BB565K	5.6	A	$1.33	$0.93	$0.67	$0.53	$0.41
CS13BB685K*	6.8	A	1.33	.93	.67	.53	.41
CS13BB476K*	47	B	2.85	2.00	1.43	1.14	.88
CS13BB566K	56	B	2.85	2.00	1.43	1.14	.88
CS13BB157K*	150	R	9.50	6.65	4.75	3.80	2.95
CS13BB187K	180	R	9.50	6.65	4.75	3.80	2.95
CS13BB277K	270	S	19.00	13.30	9.50	7.60	5.89
CS13BB337K*	330	S	19.00	13.30	9.50	7.60	5.89

10 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BC395K	3.9	A	$1.33	$0.93	$0.67	$0.53	$0.41
CS13BC475K*	4.7	A	1.33	.93	.67	.53	.41
CS13BC276K	27	B	2.85	2.00	1.43	1.14	.88
CS13BC336K*	33	B	2.85	2.00	1.43	1.14	.88
CS13BC396K	39	B	2.85	2.00	1.43	1.14	.88
CS13BC826K	82	R	9.50	6.65	4.75	3.80	2.95
CS13BC107K*	100	R	9.50	6.65	4.75	3.80	2.95
CS13BC127K	120	R	9.50	6.65	4.75	3.80	2.95
CS13BC187K	180	S	19.00	13.30	9.50	7.60	5.89
CS13BC227K*	220	S	19.00	13.30	9.50	7.60	5.89

15 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BD275K	2.7	A	$1.33	$0.93	$0.67	$0.53	$0.41
CS13BD335K*	3.3	A	1.33	.93	.67	.53	.41
CS13BD186K	18	B	2.85	2.00	1.43	1.14	.88
CS13BD226K*	22	B	2.85	2.00	1.43	1.14	.88
CS13BD566K	56	R	9.50	6.65	4.75	3.80	2.95
CS13BD686K*	68	R	9.50	6.65	4.75	3.80	2.95
CS13BD127K	120	S	19.00	13.30	9.50	7.60	5.89
CS13BD157K*	150	S	19.00	13.30	9.50	7.60	5.89

20 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BE125K	1.2	A	$1.33	$0.93	$0.67	$0.53	$0.41
CS13BE155K*	1.5	A	1.33	.93	.67	.53	.41
CS13BE185K	1.8	A	1.33	.93	.67	.53	.41
CS13BE225K*	2.2	A	1.33	.93	.67	.53	.41
CS13BE825K	8.2	B	2.85	2.00	1.43	1.14	.88
CS13BE106K*	10	B	2.85	2.00	1.43	1.14	.88
CS13BE126K	12	B	2.85	2.00	1.43	1.14	.88
CS13BE156K*	15	B	2.85	2.00	1.43	1.14	.88
CS13BE276K	27	R	9.50	6.65	4.75	3.80	2.95
CS13BE336K*	33	R	9.50	6.65	4.75	3.80	2.95
CS13BE396K	39	R	9.50	6.65	4.75	3.80	2.95
CS13BE476K*	47	R	9.50	6.65	4.75	3.80	2.95
CS13BE566K	56	S	19.00	13.30	9.50	7.60	5.89
CS13BE686K*	68	S	19.00	13.30	9.50	7.60	5.89
CS13BE826K	82	S	19.00	13.30	9.50	7.60	5.89
CS13BE107K*	100	S	19.00	13.30	9.50	7.60	5.89

35 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BF334K*	.33	A	$1.33	$0.93	$0.67	$0.53	$0.41
CS13BF394K	.39	A	1.33	.93	.67	.53	.41
CS13BF474K*	.47	A	1.33	.93	.67	.53	.41
CS13BF564K	.56	A	1.33	.93	.67	.53	.41
CS13BF684K*	.68	A	1.33	.93	.67	.53	.41
CS13BF824K	.82	A	1.33	.93	.67	.53	.41
CS13BF105K*	1.0	A	1.33	.93	.67	.53	.41
CS13BF125K	1.2	B	2.85	2.00	1.43	1.14	.88
CS13BF155K*	1.5	B	2.85	2.00	1.43	1.14	.88
CS13BF185K	1.8	B	2.85	2.00	1.43	1.14	.88
CS13BF225K*	2.2	B	2.85	2.00	1.43	1.14	.88
CS13BF275K	2.7	B	2.85	2.00	1.43	1.14	.88
CS13BF335K*	3.3	B	2.85	2.00	1.43	1.14	.88
CS13BF395K	3.9	B	2.85	2.00	1.43	1.14	.88
CS13BF475K*	4.7	B	2.85	2.00	1.43	1.14	.88
CS13BF565K	5.6	B	2.85	2.00	1.43	1.14	.88
CS13BF685K*	6.8	B	2.85	2.00	1.43	1.14	.88
CS13BF825K	8.2	R	9.50	6.65	4.75	3.80	2.95
CS13BF106K*	10	R	9.50	6.65	4.75	3.80	2.95
CS13BF126K	12	R	9.50	6.65	4.75	3.80	2.95
CS13BF156K*	15	R	9.50	6.65	4.75	3.80	2.95
CS13BF186K	18	R	9.50	6.65	4.75	3.80	2.95
CS13BF226K*	22	R	9.50	6.65	4.75	3.80	2.95
CS13BF276K	27	S	19.00	13.30	9.50	7.60	5.89
CS13BF336K*	33	S	19.00	13.30	9.50	7.60	5.89
CS13BF396K	39	S	19.00	13.30	9.50	7.60	5.89
CS13BF476K*	47	S	19.00	13.30	9.50	7.60	5.89

50 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BG105K	1.0	A	$1.43	$1.00	$0.72	$0.57	$0.44
CS13BG105M†	1.0	A	1.38	.97	.69	.55	.43
CS13BG125K	1.2	B	3.30	2.31	1.65	1.32	1.02
CS13BG155K	1.5	B	3.30	2.31	1.65	1.32	1.02
CS13BG155M†	1.5	B	3.25	2.28	1.63	1.30	1.01
CS13BG185K	1.8	B	3.30	2.31	1.65	1.32	1.02
CS13BG225K	2.2	B	3.30	2.31	1.65	1.32	1.02
CS13BG225M†	2.2	B	3.25	2.28	1.63	1.30	1.01
CS13BG275K	2.7	B	3.30	2.31	1.65	1.32	1.02
CS13BG335K	3.3	B	3.30	2.31	1.65	1.32	1.02
CS13BG335M†	3.3	B	3.25	2.28	1.63	1.30	1.01
CS13BG395K	3.9	B	3.30	2.31	1.65	1.32	1.02
CS13BG475K	4.7	B	3.30	2.31	1.65	1.32	1.02
CS13BG475M†	4.7	B	3.25	2.28	1.63	1.30	1.01
CS13BG565K	5.6	R	11.65	8.16	5.83	4.66	3.61
CS13BG685K	6.8	R	11.65	8.16	5.83	4.66	3.61
CS13BG685M†	6.8	R	11.50	8.05	5.75	4.60	3.57
CS13BG825K	8.2	R	11.65	8.16	5.83	4.66	3.61

50 WORKING VOLTS DC (CONTINUED)

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BG106K	10	R	11.65	$8.16	$5.83	$4.66	$3.61
CS13BG106M†	10	R	11.50	8.05	5.75	4.60	3.57
CS13BG126K	12	R	11.65	8.16	5.83	4.66	3.61
CS13BG156K	15	R	11.65	8.16	5.83	4.66	3.61
CS13BG156M†	15	R	11.50	8.05	5.75	4.60	3.57
CS13BG186K	18	R	11.65	8.16	5.83	4.66	3.61
CS13BG226K	22	S	19.75	13.83	9.88	7.90	6.12
CS13BG226M†	22	S	19.60	13.72	9.80	7.84	6.08

75 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BH104K	.10	A	$2.58	$1.81	$1.29	$1.03	$0.80
CS13BH104M†	.10	A	2.48	1.74	1.24	.99	.77
CS13BH124K	.12	A	2.58	1.81	1.29	1.03	.80
CS13BH154K	.15	A	2.58	1.81	1.29	1.03	.80
CS13BH154M†	.15	A	2.48	1.74	1.24	.99	.77
CS13BH184K	.18	A	2.58	1.81	1.29	1.03	.80
CS13BH224K	.22	A	2.58	1.81	1.29	1.03	.80
CS13BH224M†	.22	A	2.48	1.74	1.24	.99	.77
CS13BH274K	.27	A	2.58	1.81	1.29	1.03	.80
CS13BH334K	.33	A	2.58	1.81	1.29	1.03	.80
CS13BH334M†	.33	A	2.48	1.74	1.24	.99	.77
CS13BH394K	.39	A	2.58	1.81	1.29	1.03	.80
CS13BH474K	.47	A	2.58	1.81	1.29	1.03	.80
CS13BH474M†	.47	A	2.48	1.74	1.24	.99	.77
CS13BH564K	.56	A	2.58	1.81	1.29	1.03	.80
CS13BH684K	.68	A	2.58	1.81	1.29	1.03	.80
CS13BH684M†	.68	A	2.48	1.74	1.24	.99	.77
CS13BH824K	.82	B	5.00	3.50	2.50	2.00	1.55
CS13BH105K	1.0	B	5.00	3.50	2.50	2.00	1.55
CS13BH105M†	1.0	B	4.90	3.43	2.45	1.96	1.52
CS13BH125K	1.2	B	5.00	3.50	2.50	2.00	1.55
CS13BH155K	1.5	B	5.00	3.50	2.50	2.00	1.55
CS13BH155M†	1.5	B	4.90	3.43	2.45	1.96	1.52
CS13BH185K	1.8	B	5.00	3.50	2.50	2.00	1.55
CS13BH225K	2.2	B	5.00	3.50	2.50	2.00	1.55
CS13BH225M†	2.2	B	4.90	3.43	2.45	1.96	1.52
CS13BH275K	2.7	B	5.00	3.50	2.50	2.00	1.55
CS13BH335K	3.3	B	5.00	3.50	2.50	2.00	1.55
CS13BH335M†	3.3	B	4.90	3.43	2.45	1.96	1.52
CS13BH395K	3.9	B	5.00	3.50	2.50	2.00	1.55
CS13BH475K	4.7	R	15.35	10.75	7.68	6.14	4.76
CS13BH475M†	4.7	R	15.15	10.61	7.58	6.06	4.70
CS13BH565K	5.6	R	15.35	10.75	7.68	6.14	4.76
CS13BH685K	6.8	R	15.35	10.75	7.68	6.14	4.76
CS13BH685M†	6.8	R	15.15	10.61	7.58	6.06	4.70
CS13BH825K	8.2	R	15.35	10.75	7.68	6.14	4.76
CS13BH106K	10	R	15.35	10.75	7.68	6.14	4.76
CS13BH106M†	10	R	15.15	10.61	7.58	6.06	4.70
CS13BH126K	12	S	26.25	18.38	13.13	10.50	8.14
CS13BH156K	15	S	26.25	18.38	13.13	10.50	8.14
CS13BH156M†	15	S	25.95	18.17	12.98	10.38	8.05

100 WORKING VOLTS DC

MIL Type No.	Cap., µF	Case Size ‡	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
CS13BJ472K§	.0047	A	$4.53	$3.17	$2.27	$1.81	$1.40
CS13BJ562K	.0056	A	4.53	3.17	2.27	1.81	1.40
CS13BJ682K§	.0068	A	4.53	3.17	2.27	1.81	1.40
CS13BJ822K	.0082	A	4.53	3.17	2.27	1.81	1.40
CS13BJ103K§	.01	A	4.53	3.17	2.27	1.81	1.40
CS13BJ123K	.012	A	4.53	3.17	2.27	1.81	1.40
CS13BJ153K§	.015	A	4.53	3.17	2.27	1.81	1.40
CS13BJ183K	.018	A	4.53	3.17	2.27	1.81	1.40
CS13BJ223K§	.022	A	4.53	3.17	2.27	1.81	1.40
CS13BJ273K	.027	A	4.53	3.17	2.27	1.81	1.40
CS13BJ333K§	.033	A	4.53	3.17	2.27	1.81	1.40
CS13BJ393K	.039	A	4.53	3.17	2.27	1.81	1.40
CS13BJ473K§	.047	A	4.53	3.17	2.27	1.81	1.40
CS13BJ563K	.056	A	4.53	3.17	2.27	1.81	1.40
CS13BJ683K§	.068	A	4.53	3.17	2.27	1.81	1.40
CS13BJ823K	.082	A	4.53	3.17	2.27	1.81	1.40
CS13BJ104K§	.10	A	4.53	3.17	2.27	1.81	1.40
CS13BJ124K	.12	A	4.53	3.17	2.27	1.81	1.40
CS13BJ154K§	.15	A	4.53	3.17	2.27	1.81	1.40
CS13BJ184K	.18	A	4.53	3.17	2.27	1.81	1.40
CS13BJ224K§	.22	A	4.53	3.17	2.27	1.81	1.40
CS13BJ274K	.27	A	4.53	3.17	2.27	1.81	1.40
CS13BJ334K§	.33	A	4.53	3.17	2.27	1.81	1.40
CS13BJ394K	.39	A	4.53	3.17	2.27	1.81	1.40
CS13BJ474K§	.47	A	4.53	3.17	2.27	1.81	1.40
CS13BJ564K	.56	A	4.53	3.17	2.27	1.81	1.40
CS13BJ684K#	.68	B	7.45	5.22	3.73	2.98	2.31
CS13BJ824K	.82	B	7.45	5.22	3.73	2.98	2.31
CS13BJ105K#	1.0	B	7.45	5.22	3.73	2.98	2.31
CS13BJ125K	1.2	B	7.45	5.22	3.73	2.98	2.31
CS13BJ155K#	1.5	B	7.45	5.22	3.73	2.98	2.31
CS13BJ185K	1.8	B	7.45	5.22	3.73	2.98	2.31
CS13BJ225K#	2.2	B	7.45	5.22	3.73	2.98	2.31
CS13BJ275K	2.7	B	7.45	5.22	3.73	2.98	2.31

‡CASE SIZE

Case Size	CS12 Size, In. Dia. x Lg.	CS13 Size, In. Dia. x Lg.	Case Size	CS12 Size, In. Dia. x Lg.	CS13 Size, In. Dia. x Lg.
A	.125 x .250	.140 x .312	R	.279 x .650	.285 x .759
B	.175 x .438	.190 x .500	S	.341 x .750	.347 x .859

*For ±20% tol., change suffix K to **M** and deduct **5c** from price. †Tol., ±20%. §For ±20% tol., change suffix K to **M.** Net Each, Lots of: 1-24, **$4.33**; 25-49, **$3.03**; 50-99, **$2.17**; 100-499, **$1.73**; 500-999, **$1.34.** #For ±20% tol., change suffix K to **M.** Net Each, Lots of: 1-24, **$7.20**; 25-49, **$5.04**; 50-99, **$3.60**; 100-499, **$2.88**; 500-999, **$2.23.**

TYPE 672D AND 673D SINGLE-ENDED EXTRALYTIC® ALUMINUM ELECTROLYTE CAPACITORS

Miniature, single-ended, electrolytic capacitors feature low equivalent series resistance, inductance and impedance for use in switching regulators and many high-frequency applications. Premium grade capacitors offer guaranteed inductance limit of 10 mH with typical values of less than 10 nH. Capacitance tolerance is −10%, +100%. Operating temperature range is −55° C to +105° C. Furnished with outer plastic-film insulation.

Sprague Number	Cap., µF	Rating VDC	Size/ Price Code
672D127H6R3CC5C	100	6.3	CC
672D157H6R3CD5C	150	6.3	CD
672D187H6R3CD5C	180	6.3	CD
672D227H6R3CG5C	220	6.3	CG
672D687H6R3DM5C	680	6.3	DM
672D827H6R3DT5C	820	6.3	DT
672D108H6R3EK5C	1000	6.3	EK
672D128H6R3DS5C	1200	6.3	DS
672D128H6R3ET5C	1200	6.3	ET
672D158H6R3ET5C	1500	6.3	ET
673D228H6R3JE5C	2200	6.3	JE
672D107H7R5CC5C	100	7.5	CC
672D157H7R5CD5C	150	7.5	CD
672D687H7R5DT5C	680	7.5	DT
672D108H7R5ET5C	1000	7.5	ET
673D158H7R5HE5C	1500	7.5	HE
673D478H7R5JJ5C	4700	7.5	JJ
672D107H012CC5C	100	12	CC
672D127H012CD5C	120	12	CD
672D157H012CG5C	150	12	CG
672D187H012CG5C	180	12	CG
672D477H012DM5C	470	12	DM
672D687H012DT5C	680	12	DT
672D108H012DS5C	1000	12	DS
672D108H012ET5C	1000	12	ET
673D158H012JE5C	1500	12	JE
673D338H012JJ5C	3300	12	JJ
672D826H015CC5C	82	15	CC
672D107H015CC5C	100	15	CC
672D107H015CD5C	100	15	CD
672D157H015CG5C	150	15	CG
672D397H015DM5C	390	15	DM
672D477H015DT5C	470	15	DT
672D687H015EK5C	680	15	EK
672D827H015DS5C	820	15	DS
672D827H015ET5C	820	15	ET
672D108H015ET5C	1000	15	ET
673D158H015JE5C	1500	15	JE
673D228H015HJ5C	2200	15	HJ
673D338H015JJ5C	3300	15	JJ
673D478H015JL5C	4700	15	JL
672D566H020CC5C	56	20	CC
672D686H020CD5C	68	20	CD
672D826H020CD5C	82	20	CD
672D107H020CG5C	100	20	CG
672D337H020DM5C	330	20	DM
672D397H020DT5C	390	20	DT
672D477H020EK5C	470	20	EK
672D567H020DS5C	560	20	DS
672D567H020ET5C	560	20	ET
672D687H020ET5C	680	20	ET
673D108H020JE5C	1000	20	JE
673D228H020JJ5C	2200	20	JJ
672D476H025CC5C	47	25	CC
672D686H025CD5C	68	25	CD
672D826H025CG5C	82	25	CG
672D277H025DM5C	270	25	DM
672D337H025DT5C	330	25	DT
672D477H025DS5C	470	25	DS
672D477H025ET5C	470	25	ET
673D687H025HE5C	680	25	HE
673D108H025JE5C	1000	25	JE
673D158H025HJ5C	1500	25	HJ
672D396H040CC5C	39	40	CC
672D476H040CD5C	47	40	CD
672D566H040CG5C	56	40	CG
672D187H040DM5C	180	40	DM
672D227H040EK5C	220	40	EK
672D277H040DT5C	270	40	DT
672D337H040ET5C	330	40	ET
672D397H040DS5C	390	40	DS
672D397H040ET5C	390	40	ET
673D477H040HE5C	470	40	HE
673D687H040JE5C	680	40	JE
672D186H050CC5C	18	50	CC
672D226H050CD5C	22	50	CD
672D276H050CG5C	27	50	CG
672D826H050DM5C	82	50	DM
672D107H050DT5C	100	50	DT
672D127H050DT5C	120	50	DT
672D157H050EK5C	150	50	EK
672D187H050DS5C	180	50	DS
672D187H050ET5C	180	50	ET
672D227H050ET5C	220	50	ET
673D337H050HE5C	330	50	HE
673D477H050JE5C	470	50	JE
673D687H050HJ5C	680	50	HJ
672D126H060CC5C	12	60	CC
672D156H060CD5C	15	60	CD
672D186H060CD5C	18	60	CD
672D226H060CG5C	22	60	CG
672D686H060DM5C	68	60	DM
672D826H060DT5C	82	60	DT
672D107H060EK5C	100	60	EK
672D127H060DS5C	120	60	DS
672D127H060ET5C	120	60	ET
672D157H060ET5C	150	60	ET
673D227H060JE5C	220	60	JE
673D477H060JJ5C	470	60	JJ
673D687H060JL5C	680	60	JL
672D475H100CC5C	4.7	100	CC
672D685H100CD5C	6.8	100	CD
672D825H100CG5C	8.2	100	CG
672D276H100DM5C	27	100	DM
672D336H100EK5C	33	100	EK
672D396H100DT5C	39	100	DT
672D476H100DS5C	47	100	DS
672D476H100ET5C	47	100	ET
672D686H100ET5C	68	100	ET
673D107H100JE5C	100	100	JE
673D276H200HE5C	27	200	HE
673D566H200HJ5C	56	200	HJ
673D686H200JJ5C	68	200	JJ
673D127H200JL5C	120	200	JL
673D226H250HE5C	22	250	HE
673D336H250JE5C	33	250	JE
673D396H250HJ5C	39	250	HJ
673D107H250JL5C	100	250	JL

CASE SIZE CODES

Size Code	Size, Inches	
	Diameter	Length
CC	.413	.677
CD	.413	.740
CG	.413	.927
DM	.500	1.165
DT	.500	1.437
DS	.500	1.790
EK	.635	1.124
ET	.635	1.437
HE	.885	1.250
HJ	.885	1.750
JE	1.010	1.250
JJ	1.010	1.750
JL	1.010	2.250

PRICE CODES

Price Code	Net Each, Lots of				
	1-9	10-24	25-49	50-99	100-249
CC	$1.60	$1.28	$0.96	$0.80	$0.56
CD	1.65	1.32	.99	.83	.58
CG	1.70	1.36	1.02	.85	.60
DM	2.00	1.60	1.20	1.00	.70
DT	2.05	1.64	1.23	1.03	.72
DS	2.15	1.72	1.29	1.08	.75
EK	2.30	1.84	1.38	1.15	.81
ET	2.45	1.96	1.47	1.23	.86
HE	5.60	4.48	3.36	2.80	1.96
HJ	6.10	4.88	3.66	3.05	2.14
JE	6.25	5.00	3.75	3.13	2.19
JJ	6.95	5.56	4.17	3.48	2.43
JL	7.45	5.96	4.47	3.73	2.61

TYPE EP POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Especially suitable for transistorized circuitry where high capacitance is required. Uses most reliable seal developed by Sprague, and silicone rubber safety vents. Uses low screw insert terminals, ½" high. Insulating plastic sleeve.

Sprague Number	Cap., µF	VDC	★ Size	Net Each, Lots of			
				1-24	25-49	50-99	100-249
EP10-602	6,000	10	A	$ 4.44	$ 3.70	$ 2.12	$ 1.92
EP10-183	18,000	10	C	5.76	4.78	2.73	2.48
EP10-483	48,000	10	G	10.17	8.48	4.85	4.41
EP15-462	4,600	15	A	4.44	3.70	2.12	1.92
EP15-752	7,500	15	A	4.56	3.78	2.16	1.96
EP15-922	9,200	15	B	5.22	4.35	2.49	2.26
EP15-133	13,000	15	C	5.76	4.78	2.73	2.48
EP15-153	15,000	15	B	5.70	4.75	2.72	2.47
EP15-213	21,000	15	E	8.04	6.70	3.83	3.48
EP15-313	31,000	15	F	9.57	7.98	4.56	4.15
EP15-363	36,000	15	G	10.17	8.48	4.85	4.41
EP15-503	50,000	15	F	11.76	9.78	5.59	5.08
EP15-543	54,000	15	H	13.71	11.40	6.52	5.93
EP25-272	2,700	25	A	4.44	3.70	2.12	1.92
EP25-452	4,500	25	A	4.56	3.78	2.16	1.96
EP25-552	5,500	25	B	5.22	4.35	2.49	2.26
EP25-822	8,000	25	C	5.76	4.78	2.73	2.48
EP25-133	13,000	25	D	6.66	5.53	3.16	2.87
EP25-183	18,000	25	F	9.57	7.98	4.56	4.15
EP25-323	32,000	25	H	13.71	11.40	6.52	5.93
EP30-402	4,000	30	B	5.22	4.35	2.49	2.26
EP40-182	1,800	40	A	4.44	3.70	2.12	1.92
EP40-362	3,600	40	A	5.22	4.35	4.24	2.26
EP40-552	5,500	40	C	5.76	4.78	2.73	2.48
EP40-582	5,800	40	B	5.70	4.75	2.72	2.47
EP40-842	8,400	40	E	8.04	6.70	3.83	3.48
EP40-872	8,700	40	C	6.66	5.53	3.16	2.87
EP40-123	12,000	40	F	9.57	7.98	4.56	4.15
EP40-213	21,000	40	H	13.71	11.40	6.52	5.93
EP50-132	1,300	50	A	4.44	3.70	2.12	1.92
EP50-242	2,400	50	A	4.56	3.78	2.16	1.96
EP50-262	2,600	50	B	5.22	4.35	2.49	2.26
EP50-352	3,900	50	C	$ 5.76	$ 4.78	$ 2.73	$ 2.48
EP50-482	4,800	50	B	5.70	4.75	2.72	2.47
EP50-522	5,200	50	D	6.99	5.83	3.33	3.03
EP50-602	6,000	50	E	8.04	6.70	3.83	3.48
EP50-722	7,200	50	C	6.66	5.53	3.16	2.87
EP50-902	9,000	50	F	9.57	7.98	4.56	4.15
EP50-153	15,000	50	H	13.71	11.40	6.52	5.93
EP50-223	22,000	50	I	19.17	15.98	9.14	8.31
EP75-172	1,700	75	B	5.49	4.58	2.62	2.38
EP75-252	2,500	75	C	6.24	5.20	2.97	2.70
EP75-392	3,900	75	E	8.79	7.33	4.19	3.81
EP75-592	5,900	75	F	10.56	8.78	5.02	4.56
EP75-373	37,000	75	J	40.77	33.98	19.43	17.67
EP150-901	900	150	C	7.29	6.05	3.46	3.15
EP150-142	1,400	150	E	10.02	8.35	4.78	4.34
EP150-212	2,100	150	F	11.79	9.83	5.62	5.11
EP200-251	250	200	A	4.89	4.08	2.33	2.12
EP200-431	430	200	B	6.09	5.08	2.90	2.64
EP200-641	640	200	C	7.29	6.05	3.46	3.15
EP250-351	350	250	B	6.09	5.08	2.90	2.64
EP250-531	530	250	C	7.29	6.05	3.46	3.15
EP250-801	800	250	E	10.02	8.35	4.78	4.34
EP300-241	240	300	B	6.09	5.08	2.90	2.64
EP450-141	140	450	C	7.29	6.05	3.46	3.15

★ CASE SIZES

Size Code	Size, Ins. D x L	Size Code	Size, Ins. D x L	Size Code	Size, Ins. D x L
A	1⅜ x 2⅛	E	2 x 3⅛	H	2½ x 4⅛
B	1⅜ x 3½	F	2 x 4⅛	I	3 x 4⅛
C	1⅜ x 4⅛	G	2½ x 3⅛	J	3 x 5⅝
D	1⅜ x 4⅛				

SPRAGUE Tantalum Capacitors

TYPE CSR13 SOLID ELECTROLYTE TUBULAR TANTALUM CAPACITORS TO MIL-C-39003/1A SPECIFICATIONS

Established reliability, solid tantalums meet satellite, missile, military equipment, computer and other complex equipment requirements for minimum failure. Meet MIL-C-39003 requirements in choice of 2%, 1% or 0.1% failure rate versions. Extensively tested and culled to meet highest environmental conditions such as high G shock, vibration, immersion, etc. (Full specifications on request.) **Temp. Range:** −55° C to +125° C. Supplied with insulating sleeve.



STOCK VALUES MIL-C-39003 (2% FAILURE RATE)

6 WVDC

Cap., µF	MIL Type Number	*
5.6	CSR13B565KL	A
6.8	CSR13B685KL†	A
47	CSR13B476KL†	B
56	CSR13B566KL	B
150	CSR13B157KL†	C
180	CSR13B187KL	C
270	CSR13B277KL	D
330	CSR13B337KL†	D

10 WVDC

Cap., µF	MIL Type Number	*
3.9	CSR13C395KL	A
4.7	CSR13C475KL†	A
27	CSR13C276KL	B
33	CSR13C336KL†	B
39	CSR13C396KL	B
82	CSR13C826KL	C
100	CSR13C107KL†	C
120	CSR13C127KL	C
180	CSR13C187KL	D
220	CSR13C227KL†	D

15 WVDC

Cap., µF	MIL Type Number	*
2.7	CSR13D275KL	A
3.3	CSR13D335KL†	A
18	CSR13D186KL	B
22	CSR13D226KL†	B
56	CSR13D566KL	C
68	CSR13D686KL†	C
120	CSR13D127KL	D
150	CSR13D157KL†	D

20 WVDC

Cap., µF	MIL Type Number	*
1.2	CSR13E125KL	A
1.5	CSR13E155KL†	A
1.8	CSR13E185KL	A
2.2	CSR13E225KL†	A
8.2	CSR13E825KL	B
10	CSR13E106KL†	B
12	CSR13E126KL	B
15	CSR13E156KL†	B
27	CSR13E276KL	C
33	CSR13E336KL†	C
39	CSR13E396KL	C

20 WVDC (CONT'D)

Cap., µF	MIL Type Number	*
47	CSR13E476KL†	C
56	CSR13E566KL	D
68	CSR13E686KL†	D
82	CSR13E826KL	D
100	CSR13E107KL†	D

35 WVDC

Cap., µF	MIL Type Number	*
5.6	CSR13F565KL	B
6.8	CSR13F685KL†	B
22	CSR13F226KL†	C
27	CSR13F276KL	D
33	CSR13F336KL†	D
39	CSR13F396KL	D
47	CSR13F476KL†	D

50 WVDC

Cap., µF	MIL Type Number	*
.0047	CSR13G472KL†	A
.0056	CSR13G562KL	A
.0068	CSR13G682KL†	A
.0082	CSR13G822KL	A
.01	CSR13G103KL†	A
.012	CSR13G123KL	A
.015	CSR13G153KL†	A
.018	CSR13G183KL	A
.022	CSR13G223KL†	A
.027	CSR13G273KL	A
.033	CSR13G333KL†	A
.039	CSR13G393KL	A
.047	CSR13G473KL†	A
.056	CSR13G563KL	A
.068	CSR13G683KL†	A
.082	CSR13G823KL	A
.1	CSR13G104KL†	A
.12	CSR13G124KL	A
.15	CSR13G154KL†	A
.18	CSR13G184KL	A
.22	CSR13G224KL†	A
.27	CSR13G274KL	A
.33	CSR13G334KL†	A
.39	CSR13G394KL	A
.47	CSR13G474KL†	A
.56	CSR13G564KL	A

50 WVDC (CONT'D)

Cap., µF	MIL Type Number	*
.68	CSR13G684KL†	A
.82	CSR13G824KL	A
1	CSR13G105KL†	A
1.2	CSR13G125KL	B
1.5	CSR13G155KL†	B
1.8	CSR13G185KL	B
2.2	CSR13G225KL†	B
2.7	CSR13G275KL	B
3.3	CSR13G335KL†	B
3.9	CSR13G395KL	B
4.7	CSR13G475KL†	B
5.6	CSR13G565KL	C
6.8	CSR13G685KL†	C
8.2	CSR13G825KL	C
10	CSR13G106KL†	C
12	CSR13G126KL	C
15	CSR13G156KL†	C
18	CSR13G186KL	C
22	CSR13G226KL†	D

75 WVDC

Cap., µF	MIL Type Number	*
.1	CSR13H104KL†	A
.12	CSR13H124KL	A
.15	CSR13H154KL†	A
.18	CSR13H184KL	A
.22	CSR13H224KL†	A
.27	CSR13H274KL	A
.33	CSR13H334KL†	A
.39	CSR13H394KL	A
.47	CSR13H474KL†	A
.56	CSR13H564KL	A
.68	CSR13H684KL†	A
.82	CSR13H824KL	B
1	CSR13H105KL†	B
1.2	CSR13H125KL	B
1.5	CSR13H155KL†	D
1.8	CSR13H185KL	D
2.2	CSR13H225KL†	D
2.7	CSR13H275KL	B
3.3	CSR13H335KL†	B
3.9	CSR13H395KL	B
4.7	CSR13H475KL†	C

75 WVDC (CONT'D)

Cap., µF	MIL Type Number	*
5.6	CSR13H565KL	C
6.8	CSR13H685KL†	C
8.2	CSR13H825KL	C
10	CSR13H106KL†	C
12	CSR13H126KL	D
15	CSR13H156KL†	D

100 WVDC

Cap., µF	MIL Type Number	*
.0047	CSR13J472KL†	A
.0056	CSR13J562KL	A
.0068	CSR13J682KL†	A
.0082	CSR13J822KL	A
.01	CSR13J103KL†	A
.012	CSR13J123KL	A
.015	CSR13J153KL†	A
.018	CSR13J183KL	A
.022	CSR13J223KL†	A
.027	CSR13J273KL	A
.033	CSR13J333KL†	A
.039	CSR13J393KL	A
.047	CSR13J473KL†	A
.056	CSR13J563KL	A
.068	CSR13J683KL†	A
.082	CSR13J823KL	A
.1	CSR13J104KL†	A
.12	CSR13J124KL	A
.15	CSR13J154KL†	A
.18	CSR13J184KL	A
.22	CSR13J224KL†	A
.27	CSR13J274KL	A
.33	CSR13J334KL†	A
.39	CSR13J394KL	A
.47	CSR13J474KL†	A
.56	CSR13J564KL	A
.68	CSR13J684KL†	B
.82	CSR13J824KL	B
1.0	CSR13J105KL†	B
1.2	CSR13J125KL	B
1.5	CSR13J155KL†	B
1.8	CSR13J185KL	B
2.2	CSR13J225KL†	B
2.7	CSR13J275KL	B

Tolerance: All units shown, ±10%. †±20% available; to order, change next to last letter to **M** (e.g., CSR13B685ML).

Above stock values are for 2% Failure Rate. **For 1% Failure Rate:** Change suffix L to **M** (e.g., CSR13B565KM); prices shown at right. **For 0.1% Failure Rate:** Change suffix L to **P** (CSR13B565KP), prices as shown at right.

ORDERING AND PRICING INFORMATION

2% FAILURE RATE (L Suffix) ±10% Tolerance

WV DC	*	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$ 1.33	$0.93	$0.67	$0.53	$0.41
	B	2.85	2.00	1.43	1.14	.88
	C	9.50	6.65	4.75	3.80	2.95
	D	19.00	13.30	9.50	7.60	5.89
50	A	1.43	1.00	.72	.57	.44
	B	3.30	2.31	1.65	1.32	1.02
	C	11.65	8.16	5.83	4.66	3.61
	D	19.75	13.83	9.88	7.90	6.12
75	A	2.58	1.81	1.29	1.03	.80
	B	5.00	3.50	2.50	2.00	1.55
	C	15.35	10.75	7.68	6.14	4.76
	D	26.25	18.38	13.13	10.50	8.14
100	A	4.53	3.17	2.27	1.81	1.40
	B	7.45	5.22	3.73	2.98	2.31

±20% Tolerance

WV DC	*	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$ 1.28	$0.90	$0.64	$0.51	$0.40
	B	2.80	1.96	1.40	1.12	.87
	C	9.35	6.55	4.68	3.74	2.90
	D	18.85	13.20	9.43	7.54	5.84
75	A	1.38	.97	.69	.55	.43
	B	3.25	2.28	1.63	1.30	1.01
	C	11.50	8.05	5.75	4.60	3.57
	D	19.60	13.72	9.80	7.84	6.08
75	A	2.48	1.74	1.24	.99	.77
	B	4.90	3.43	2.45	1.96	1.52
	C	15.15	10.61	7.58	6.06	4.70
	D	25.95	18.17	12.98	10.38	8.05
100	A	4.33	3.03	2.17	1.73	1.34
	B	7.20	5.04	3.60	2.88	2.23

1% FAILURE RATE (M Suffix)

WV DC	*	±10% Tolerance, Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	±20% Tolerance, Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$ 1.43	$1.00	$0.72	$0.57	$0.44	$ 1.38	$0.97	$0.69	$0.55	$0.43
	B	2.95	2.07	1.48	1.18	.92	2.90	2.03	1.45	1.16	.90
	C	9.60	6.72	4.80	3.84	2.98	9.45	6.62	4.73	3.78	2.93
	D	19.10	13.37	9.55	7.64	5.92	18.95	13.27	9.48	7.58	5.88
50	A	1.58	1.11	.79	.63	.49	1.53	1.07	.77	.61	.47
	B	3.45	2.42	1.73	1.38	1.07	3.40	2.38	1.70	1.36	1.05
	C	11.80	8.26	5.90	4.72	3.66	11.65	8.16	5.83	4.66	3.61
	D	19.90	13.93	9.95	7.96	6.17	19.75	13.83	9.88	7.90	6.12
75	A	2.83	1.98	1.42	1.13	.88	2.73	1.91	1.37	1.09	.85
	B	5.25	3.68	2.63	2.10	1.63	5.15	3.61	2.58	2.06	1.60
	C	15.60	10.92	7.80	6.24	4.84	15.40	10.78	7.70	6.16	4.77
	D	26.50	18.55	13.25	10.60	8.22	26.20	18.34	13.10	10.48	8.12
100	A	5.03	3.52	2.52	2.01	1.56	4.83	3.38	2.42	1.93	1.50
	B	7.95	5.57	3.98	3.18	2.47	7.70	5.39	3.85	3.08	2.39

0.1% FAILURE RATE (P Suffix)

Minimum item charge, $50.00. Orders accepted on a non-cancellable, non-returnable basis only.

WV DC	*	±10% Tolerance, Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	±20% Tolerance, Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
6 thru 35	A	$ 1.83	$1.28	$0.92	$0.73	$0.57	$ 1.78	$1.25	$0.89	$0.71	$0.55
	B	3.40	2.38	1.70	1.36	1.05	3.35	2.35	1.68	1.34	1.04
	C	10.95	7.67	5.48	4.38	3.40	10.80	7.56	5.40	4.32	3.35
	D	21.50	15.05	10.75	8.60	6.67	21.30	14.91	10.65	8.52	6.60
50	A	1.98	1.39	.99	.79	.61	1.88	1.32	.94	.75	.58
	B	3.90	2.73	1.95	1.56	1.21	3.85	2.70	1.93	1.54	1.19
	C	13.30	9.31	6.65	5.32	4.12	13.15	9.21	6.58	5.26	4.08
	D	22.65	15.86	11.33	9.06	7.02	22.40	15.68	11.20	8.96	6.94
75	A	3.68	2.58	1.84	1.47	1.14	3.53	2.47	1.77	1.41	1.09
	B	6.50	4.55	3.25	2.60	2.02	6.35	4.45	3.18	2.54	1.97
	C	18.95	13.27	9.48	7.58	5.88	18.65	13.06	9.33	7.46	5.78
	D	32.40	22.68	16.20	12.96	10.04	31.95	22.37	15.98	12.78	9.91
100	A	6.63	4.64	3.32	2.65	2.06	6.33	4.43	3.17	2.53	1.96
	B	10.50	7.35	5.25	4.20	3.26	9.80	6.86	4.90	3.92	3.04

*Case Size: A, 0.135″ dia. x 0.286″ lg.; B, 0.185″ dia. x 0.474″ lg.; C, 0.289″ dia. x 0.686″ lg.; D, 0.351″ dia. x 0.786″ lg.

SPRAGUE Electrolytic Capacitors

TYPE 600D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

SPRAGUE EXTRALYTIC

Aluminum electrolytics offering extended operating temperature range from −55° C to +125° C. Dual rating makes possible operation at either +85° C or +125° C. Improved oxide systems, etching techniques, and end seals, together with a new electrolyte, make Type 600D capacitors equivalent or superior to comparable foil tantalum types. They are also lower in cost and one-third the weight of comparable foil tantalums.

7 WVDC AT 85° C; 5 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D127G007KD4	120	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D227G007DD4	220	B	3.06	1.52	1.33	.98	.94
600D277G007DE4	270	C	3.46	1.72	1.50	1.11	1.07
600D397G007DG4	390	D	3.78	1.88	1.64	1.22	1.17
600D567G007DJ4	560	E	4.34	2.16	1.89	1.40	1.34
600D827G007DL4	820	F	5.50	2.74	2.40	1.77	1.71
600D108G007DX4	1000	G	6.58	3.28	2.87	2.13	2.04

10 WVDC AT 85° C; 7 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D107G010KD4	100	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D187G010DD4	180	B	3.06	1.52	1.33	.98	.94
600D227G010DE4	220	C	3.46	1.72	1.50	1.11	1.07
600D337G010DG4	330	D	3.78	1.88	1.64	1.22	1.17
600D477G010DJ4	470	E	4.34	2.16	1.89	1.40	1.34
600D687G010DL4	680	F	5.50	2.74	3.10	2.29	2.21
600D827G010DX4	820	G	6.59	3.28	2.87	3.13	2.04

15 WVDC AT 85° C; 10 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D686G015KD4	68	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D826G015KD4	82	A	3.06	1.52	1.33	.98	.94
600D157G015DD4	150	B	3.06	1.52	1.33	.98	.94
600D187G015DE4	180	C	3.46	1.72	1.50	1.11	1.07
600D277G015DG4	270	D	3.78	1.88	1.64	1.22	1.17
600D397G015DJ4	390	E	4.34	2.16	1.89	1.40	1.34
600D567G015DL4	560	F	5.50	2.74	3.10	2.29	2.21
600D687G015DX4	680	G	5.50	2.74	3.10	2.29	2.21

20 WVDC AT 85° C; 15 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D686G020KD4	68	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D107G020DD4	100	B	3.06	1.52	1.33	.98	.94
600D147G020DE4	140	C	3.46	1.72	1.50	1.11	1.07
600D227G020DG4	220	D	3.78	1.88	1.64	1.22	1.17
600D297G020DJ4	290	E	4.34	2.16	1.89	1.40	1.34
600D447G020DL4	440	F	5.50	2.74	2.40	1.77	1.71
600D607G020DX4	600	G	6.58	3.28	2.87	2.13	2.04

30 WVDC AT 85° C; 20 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D336G030KD4	33	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D476G030KD4	47	A	3.06	1.52	1.33	.98	.94
600D826G030DD4	82	B	3.06	1.52	1.33	.98	.94
600D107G030DE4	100	C	3.46	1.72	1.50	1.11	1.07
600D127G030DG4	120	D	3.78	1.88	1.64	1.22	1.17
600D157G030DG4	150	D	3.78	1.88	1.64	1.22	1.17
600D227G030DJ4	220	E	4.34	2.16	1.89	1.40	1.34
600D337G030DL4	330	F	5.50	2.74	3.10	2.29	2.21
600D397G030DX4	390	G	6.59	3.28	2.87	3.13	2.04

40 WVDC AT 85° C; 30 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D306G040KD4	30	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D506G040DD4	50	B	3.06	1.52	1.33	.98	.94
600D706G040DE4	70	C	3.46	1.72	1.50	1.11	1.07
600D107G040DG4	100	D	3.78	1.88	1.64	1.22	1.17
600D147G040DJ4	140	E	4.34	2.16	1.89	1.40	1.34
600D217G040DL4	210	F	5.50	2.74	3.10	2.29	2.21
600D287G040DX4	280	G	5.50	2.74	3.10	2.29	2.21

50 WVDC AT 85° C; 40 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D226G050KD4	22	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D336G050DD4	33	B	3.06	1.52	1.33	.98	.94
600D476G050DE4	47	C	3.46	1.72	1.50	1.11	1.07
600D566G050DG4	56	D	3.78	1.88	1.64	1.22	1.17
600D686G050DG4	68	D	3.78	1.88	1.64	1.22	1.17
600D107G050DJ4	100	E	4.34	2.16	1.89	1.40	1.34
600D157G050DL4	150	F	5.50	2.74	2.40	1.77	1.71
600D187G050DX4	180	G	6.58	3.28	2.87	2.13	2.04

60 WVDC AT 85° C; 50 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D176G060KD4	17	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D256G060DD4	25	B	3.06	1.52	1.33	.98	.94
600D406G060DE4	40	C	3.46	1.72	1.50	1.11	1.07
600D606G060DG4	60	D	3.78	1.88	1.64	1.22	1.17
600D806G060DJ4	80	E	4.34	2.16	1.89	1.40	1.34
600D127G060DL4	120	F	5.50	2.74	3.10	2.29	2.21
600D167G060DX4	160	G	6.59	3.28	2.87	3.13	2.04

75 WVDC AT 85° C; 60 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D126F075KD4	12	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D226F075DD4	22	B	3.06	1.52	1.33	.98	.94
600D336F075DE4	33	C	3.46	1.72	1.50	1.11	1.07
600D476F075DG4	47	D	3.78	1.88	1.64	1.22	1.17
600D686F075DJ4	68	E	4.34	2.16	1.89	1.40	1.34
600D107F075DL4	100	F	5.50	2.74	3.10	2.29	2.21
600D127F075DX4	120	G	5.50	2.74	3.10	2.29	2.21

100 WVDC AT 85° C; 75 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D825F100KD4	8.2	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D126F100DD4	12	B	3.06	1.52	1.33	.98	.94
600D156F100DE4	15	C	3.46	1.72	1.50	1.11	1.07
600D226F100DG4	22	D	3.78	1.88	1.64	1.22	1.17
600D336F100DJ4	33	E	4.34	2.16	1.89	1.40	1.34
600D476F100DL4	47	F	5.50	2.74	2.40	1.77	1.71
600D686F100DX4	68	G	6.58	3.28	2.87	2.13	2.04

150 WVDC AT 85° C; 100 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D475F150KD4	4.7	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D565F150KD4	5.6	A	3.06	1.52	1.33	.98	.94
600D825F150DD4	8.2	B	3.06	1.52	1.33	.98	.94
600D126F150DE4	12	C	3.46	1.72	1.50	1.11	1.07
600D186F150DG4	18	D	3.78	1.88	1.64	1.22	1.17
600D226F150DJ4	22	E	4.34	2.16	1.89	1.40	1.34
600D336F150DL4	33	F	5.50	2.74	3.10	2.29	2.21
600D566F150DX4	56	G	6.59	3.28	2.87	3.13	2.04

200 WVDC AT 85° C; 150 WVDC AT 125° C

Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D405F200KD4	4	A	$3.06	$1.52	$1.33	$0.98	$0.94
600D605F200DD4	6	B	3.06	1.52	1.33	.98	.94
600D805F200DE4	8	C	3.46	1.72	1.50	1.11	1.07
600D136F200DG4	13	D	3.78	1.88	1.64	1.22	1.17
600D176F200DJ4	17	E	4.34	2.16	1.89	1.40	1.34
600D266F200DL4	26	F	5.50	2.74	3.10	2.29	2.21
600D396F200DX4	39	G	5.50	2.74	3.10	2.29	2.21

250 WVDC AT 85° C; 200 WVDC AT 125° C

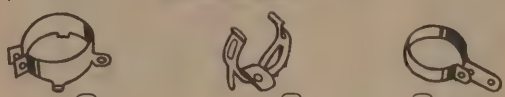
Sprague No.	Cap. µF	†	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
600D335F250KD4	3.3	A	$3.94	$1.96	$1.71	$1.27	$1.22
600D565F250DD4	5.6	B	3.94	1.96	1.71	1.27	1.22
600D685F250DE4	6.8	C	4.50	2.24	1.96	1.45	1.39
600D106F250DG4	10	D	4.90	2.44	2.13	1.58	1.52
600D126F250DJ4	12	E	5.58	2.78	2.43	1.80	1.73
600D226F250DL4	22	F	7.10	3.54	3.10	2.29	2.21
600D276F250DX4	27	G	8.50	4.24	3.71	2.75	2.64

†SIZE

Items listed have outer insulating sleeve; for bare metal case version, subtract .0156" from diameter .0625" from lenght.

Case Code	Size, Inches Dia. x Length	Case Code	Size, Inches Dia. x Length
A	.296 x 1.000	E	.390 x 1.687
B	.390 x 1.000	F	.390 x 2.249
C	.390 x 1.187	G	.390 x 2.749
D	.390 x 1.437		

MOUNTING HARDWARE



VERTICAL MTG. CLAMPS FOR CYLINDRICAL CAPACITORS (FIG. A)

Sprague No.	Inside Dia.	Mtg. Ctrs.	Net Each	Sprague No.	Inside Dia.	Mtg. Ctrs.	Net Each
4586-97	1"	1 7/16"	$0.39	4586-48	2"	2 1/2"	$0.39
4586-97F	1 1/4"	1 11/16"	.66	4586-2B	2 1/16"	2 3/16"	.96
4586-97A	1 3/8"	1 25/32"	.36	4586-1	2 1/2"	3"	.45
4586-97B	1 1/2"	1 15/16"	.45	4586-2D	2 9/16"	3 1/16"	.96
4586-97C	1 3/4"	2 3/16"	.96	4586-2	3"	3 1/2"	.96
4-36-14M	1 3/4"	2 3/16"	.72	4586-2A	3 1/16"	3 3/16"	1.02

HORIZONTAL MTG. CLIPS FOR CYLINDRICAL CAPACITORS (FIG. B)

36-520E	3/8"	.....	$0.24	36-520B	7/8"	.....	$0.33
36-520F	1/2"	.....	.24	36-520C	1"	.....	.33
36-520	5/8"	.....	.33	36-520D	1 1/8"	.....	.42
36-520A	3/4"	.....	.33				

MOUNTING STRAPS FOR TUBULAR COMPONENTS (FIG. C)

36-68T	1/4"	.....	$0.18	36-59J	7/8"	.....	$0.18
36-59	5/16"	.....	.18	36-59K	1 5/16"	.....	.18
36-59A	3/8"	.....	.18	36-59L	1"	.....	.18
36-59B	7/16"	.....	.18	36-59M	1 1/16"	.....	.18
36-59C	1/2"	.....	.18	36-59N	1 1/8"	.....	.18
36-69D	9/16"	.....	.18	36-59P	1 3/16"	.....	.18
36-69E	5/8"	.....	.18	36-59R	1 1/4"	.....	.24
36-69F	11/16"	.....	.18	36-59S	1 5/16"	.....	.24
36-69G	3/4"	.....	.18	36-59T	1 3/8"	.....	.24
36-69H	13/16"	.....	.18				

KRAFTBOARD INSULATING TUBES

For "above-ground" use with can-type capacitors. Closed top.

Sprague No.	For Can Size	Net Each	Sprague No.	For Can Size	Net Each
407-57A	1" x 2"	$0.24	407-57E	1 3/8" x 3"	$0.24
407-57N	1" x 2 1/2"	.24	407-57Z	1 3/8" x 3 1/2"	.24
407-57D	1" x 3"	.24	407-174C	1 3/8" x 4"	.24
407-174E	1" x 4"	.24	407-174P	1 3/8" x 4 1/2"	.24
407-57B	1 3/8" x 2"	.24	407-57	3/4" x 2"	.24
407-57R	1 3/8" x 2 1/2"	.24	407-57U	1" x 3 1/2"	.24

TYPES CKR05/06 MONOLYTHIC® CERAMIC CAPACITORS (TO MIL SPEC MIL-C-39014, FAILURE LEVEL L)

Ceramic dielectric and molded case. For use in applications where appreciable variations in capacitance with respect to temperature, voltage, frequency and life can be tolerated. Meet EIA temperature characteristic X7R, MIL characteristic BX. Operating temperature range, −55° C to +125° C. Lead spacing, .200. Failure level, "L" (2%).

MIL Type Designation CKR-	M39014/ 01-	Cap., pF	WV DC	Net Each, Lots of 1-49	50-99	100-249	250-499
TYPE CKR05 (.19" w. x .19" h. x .09" th.)							
05BX100KL	1361	10	200	$.425	$.319	$.238	$.213
05BX100ML	1362	10	200	.385	.289	.216	.193
05BX120KL	1363	12	200	.425	.319	.238	.213
05BX150KL	1364	15	200	.425	.319	.238	.213
05BX150ML	1365	15	200	.385	.289	.216	.193
05BX180KL	1366	18	200	.425	.319	.238	.213
05BX220KL	1367	22	200	.425	.319	.238	.213
05BX220ML	1368	22	200	.385	.289	.216	.193
05BX270KL	1369	27	200	.425	.319	.238	.213
05BX330KL	1370	33	200	.425	.319	.238	.213
05BX330ML	1371	33	200	.385	.289	.216	.193
05BX390KL	1372	39	200	.425	.319	.238	.213
05BX470KL	1373	47	200	.425	.319	.238	.213
05BX470ML	1374	47	200	.385	.289	.216	.193
05BX560KL	1375	56	200	.425	.319	.238	.213
05BX680KL	1376	68	200	.425	.319	.238	.213
05BX680ML	1377	68	200	.385	.289	.216	.193
05BX820KL	1378	82	200	.425	.319	.238	.213
05BX101KL	1379	100	200	.425	.319	.238	.213
05BX101ML	1380	100	200	.385	.289	.216	.193
05BX121KL	1381	120	200	.425	.319	.238	.213
05BX151KL	1382	150	200	.425	.319	.238	.213
05BX151ML	1383	150	200	.385	.289	.216	.193
05BX181KL	1384	180	200	.425	.319	.238	.213
05BX221KL	1385	220	200	.425	.319	.238	.213
05BX221ML	1386	220	200	.385	.289	.216	.193
05BX271KL	1387	270	200	.425	.319	.238	.213
05BX331KL	1388	330	200	.425	.319	.238	.213
05BX331ML	1389	330	200	.385	.289	.216	.193
05BX391KL	1390	390	200	.425	.319	.238	.213
05BX471KL	1391	470	200	.425	.319	.238	.213
05BX471ML	1392	470	200	.385	.289	.216	.193
05BX561KL	1393	560	200	.425	.319	.238	.213
05BX681KL	1394	680	200	.425	.319	.238	.213
05BX681ML	1395	680	200	.385	.289	.216	.193
05BX821KL	1396	820	200	.425	.319	.238	.213
05BX102KL	1397	1000	200	.425	.319	.238	.213
05BX102ML	1398	1000	100	.385	.289	.216	.193
05BX122KL	1399	1200	100	.450	.338	.252	.225
05BX152KL	1400	1500	100	.450	.338	.252	.225
05BX152ML	1401	1500	100	.405	.304	.227	.203
05BX182KL	1402	1800	100	.450	.338	.252	.225
05BX222KL	1403	2200	100	.450	.338	.252	.225
05BX222ML	1404	2200	100	.405	.304	.227	.203
05BX272KL	1405	2700	100	.450	.338	.252	.225
05BX332KL	1406	3300	100	.450	.338	.252	.225
05BX332ML	1407	3300	100	.405	.304	.227	.203
05BX392KL	1408	3900	100	.450	.338	.252	.225
05BX472KL	1409	4700	100	.450	.338	.252	.225
05BX472ML	1410	4700	100	.405	.304	.227	.203
05BX562KL	1411	5600	100	.450	.338	.252	.225
05BX682KL	1412	6800	100	.500	.375	.280	.250
05BX682ML	1413	6800	100	$.450	$.338	$.252	$.225
05BX822KL	1414	8200	100	.500	.375	.280	.250
05BX103KL	1415	10,000	100	.500	.375	.280	.250
05BX103ML	1416	10,000	100	.450	.338	.252	.225
05BX123KL	1417	12,000	50	.600	.450	.336	.300
05BX153KL	1418	15,000	50	.600	.450	.336	.300
05BX153ML	1419	15,000	50	.540	.405	.302	.270
05BX183KL	1420	18,000	50	.600	.450	.336	.300
05BX223KL	1421	22,000	50	.600	.450	.336	.300
05BX223ML	1422	22,000	50	.540	.405	.302	.270
05BX273KL	1423	27,000	50	.600	.450	.336	.300
05BX333KL	1424	33,000	50	.650	.488	.364	.325
05BX333ML	1425	33,000	50	.585	.439	.328	.293
05BX393KL	1426	39,000	50	.650	.488	.364	.325
05BX473KL	1427	47,000	50	.650	.488	.364	.325
05BX473ML	1428	47,000	50	.585	.439	.328	.293
05BX563KL	1429	56,000	50	.700	.525	.392	.350
05BX683KL	1430	68,000	50	.700	.525	.392	.350
05BX683ML	1431	68,000	50	.630	.473	.353	.315
05BX823KL	1432	82,000	50	.750	.563	.420	.375
05BX104KL	1433	100,000	50	.750	.563	.420	.375
05BX104ML	1434	100,000	50	.675	.506	.378	.338
	M39014/ 02-			TYPE CKR06 (.29" w. x .29" h. x .09" th.)			
06BX122KL	1361	1200	200	$.575	$.431	$.332	$.288
06BX152KL	1362	1500	200	.575	.431	.332	.288
06BX152ML	1363	1500	200	.520	.390	.291	.260
06BX182KL	1364	1800	200	.575	.431	.322	.288
06BX222KL	1366	2200	200	.575	.431	.322	.288
06BX222ML	1367	2200	200	.520	.390	.291	.260
06BX272KL	1368	2700	200	.575	.431	.322	.288
06BX332KL	1369	3300	200	.575	.431	.322	.288
06BX332ML	1370	3300	200	.520	.390	.291	.260
06BX392KL	1371	3900	200	.575	.431	.322	.288
06BX472KL	1372	4700	200	.575	.431	.322	.288
06BX472ML	1373	4700	200	.520	.390	.291	.260
06BX562KL	1374	5600	200	.575	.431	.322	.288
06BX682KL	1375	6800	200	.575	.431	.322	.288
06BX682ML	1376	6800	200	.520	.390	.291	.260
06BX822KL	1377	8200	200	.575	.431	.322	.288
06BX103KL	1378	10,000	200	.575	.431	.322	.288
06BX103ML	1379	10,000	200	.520	.390	.291	.260
06BX123KL	1380	12,000	100	.625	.469	.350	.313
06BX153KL	1381	15,000	100	.625	.469	.350	.313
06BX183KL	1382	18,000	100	.625	.469	.350	.313
06BX223KL	1383	22,000	100	.625	.469	.350	.313
06BX273KL	1384	27,000	100	.625	.469	.350	.313
06BX333KL	1385	33,000	100	.700	.525	.392	.350
06BX393KL	1386	39,000	100	.700	.525	.392	.350
06BX473KL	1387	47,000	100	.700	.525	.392	.350
06BX563KL	1388	56,000	100	.750	.563	.420	.375
06BX683KL	1389	68,000	100	.750	.563	.420	.375
06BX823KL	1390	82,000	100	.800	.600	.448	.400
06BX104KL	1391	100,000	100	.800	.600	.448	.400
06BX124KL	1392	120,000	50	1.300	.975	.728	.650
06BX154KL	1393	150,000	50	1.300	.975	.728	.650
06BX184KL	1394	180,000	50	1.500	1.125	.840	.750
06BX224KL	1395	220,000	50	1.500	1.125	.840	.750

THESE CAPACITORS ARE SUBJECT TO A PRECIOUS-METAL SURCHARGE

TYPE 432D STACKED-FOIL COMPULYTIC® ALUMINUM ELECTROLYTICS

Stacked-foil construction allows capacitance values to 100,000 μF with extremely low equivalent series resistance of typically less than .001 ohm and inductance of only 1 mH. Special strip-line terminals are ideal for use with laminated-bus power distribution systems found in modern EDP equipment. Operating temperature range is −40° C to +85° C.

Sprague No.	Cap., μF	Case Code*	Net Each, Lots of 1-24	25-49	50-99	100-249
6 WVDC						
432D392006AA2	3900	A	$14.93	$12.22	$10.86	$ 8.15
432D103006AC2	10,000	B	17.52	14.33	12.74	9.56
432D563006DC2	56,000	C	42.93	35.12	31.22	23.42
432D104006DF2	100,000	D	53.16	43.49	38.66	29.00
7.5 WVDC						
432D2727R5AA2	2700	A	$14.74	$12.06	$10.72	$ 8.04
432D6327R5AC2	6800	B	17.52	14.33	12.74	9.56
432D4737R5DC2	47,000	C	43.26	35.39	31.46	23.60
432D6837R5DF2	68,000	D	53.08	43.43	38.60	28.95
10 WVDC						
432D222010AA2	2200	A	$14.69	$12.02	$10.68	$ 8.01
432D562010AC2	5600	B	17.52	14.33	12.74	9.56
432D333010DC2	33,000	C	42.93	35.12	31.22	23.42
432D563010DF2	56,000	D	52.91	43.29	38.48	28.86
15 WVDC						
432D182015AA2	1800	A	$14.49	$11.86	$10.54	$ 7.91
432D472015AC2	4700	B	17.16	14.04	12.48	9.36
432D273015DC2	27,000	C	42.63	34.88	31.00	23.25
432D393015DF2	39,000	D	52.75	43.16	38.36	28.77
20 WVDC						
432D122020AA2	1200	A	$14.52	$11.88	$10.56	$7.92
432D332020AC2	3300	B	17.13	14.02	12.46	9.35
20 WVDC (CONT'D)						
432D183020DC2	18,000	C	$43.01	$35.19	$31.28	$23.46
432D273020DF2	27,000	D	52.86	43.25	38.44	28.83
25 WVDC						
432D102025AA2	1000	A	$14.52	$11.88	$10.56	$ 7.92
432D272025AC2	2700	B	17.52	14.33	12.74	9.56
432D153025DC2	15,000	C	42.16	34.49	30.66	23.00
432D223025DF2	22,000	D	52.50	42.95	38.18	28.64
30 WVDC						
432D821030AA2	820	A	$14.52	$11.88	$10.56	$ 7.92
432D222030AC2	2200	B	17.19	14.06	12.50	9.38
432D123030DC2	12,000	C	42.05	34.40	30.58	22.94
432D183030DF2	18,000	D	52.47	42.93	38.16	28.62
40 WVDC						
432D561040AA2	560	A	$14.60	$11.95	$10.62	$ 7.97
432D152040AC2	1500	B	17.35	14.20	12.62	9.47
432D822040DC2	8200	C	41.64	34.07	30.28	22.71
432D123040DF2	12,000	D	52.61	43.04	38.26	28.70
50 WVDC						
432D471050AA2	470	A	$14.58	$11.93	$10.60	$ 7.95
432D102050AC2	1000	B	17.33	14.18	12.60	9.45
432D682050DC2	6800	C	41.58	34.02	30.24	22.68
432D103050DF2	10,000	D	50.96	41.69	37.06	27.80

*Case Codes

Case Code	Size, Inches Diam.	Length	Case Code	Size, Inches Diam.	Length
A	1.453	2.250	C	3.078	4.250
B	1.453	4.250	D	3.078	5.750

SPRAGUE Capacitors

TYPE 118P SUBMINIATURE 125° C DIFILM® METALLIZED CAPACITORS



Unmatched in performance by any other metallized capacitors. Rated at 125° C without voltage derating. Dual dielectric combines metallized paper and polyester film; impregnated with special high temperature mineral wax. Sections are non-inductive construction. Hermetically sealed with glass-to-metal solder-seal terminals. Self-healing dielectric. May be used at extremely low voltages. **Tolerance:** ±10% as listed; ±20% available.

Cap., µF	WV DC	Plain Metal Case: Sprague No. 118P-*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499*	With Plastic Sleeve: Sprague No. 118P-*	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249	250-499*
.01	200	10392S2	$12.265	$ 9.812	$6.133	$4.906	$3.68	$3.189	10392S4	$12.54	$10.032	$6.27	$5.016	$3.762	$3.26
.015	200	15392S2	11.385	9.108	5.693	4.554	3.416	2.96	15392S4	11.66	9.328	5.83	4.664	3.498	3.032
.022	200	22392S2	6.545	5.236	3.273	2.618	1.964	1.702	22392S4	6.82	5.456	3.41	2.728	2.046	1.773
.033	200	33392S2	6.545	5.236	3.273	2.618	1.964	1.702	33392S4	6.82	5.456	3.41	2.728	2.046	1.773
.047	200	47392S2	6.435	5.148	3.218	2.574	1.931	1.673	47392S4	6.71	5.368	3.355	2.684	2.013	1.745
.068	200	68392S2	6.545	5.236	3.273	2.618	1.964	1.702	68392S4	6.82	5.456	3.41	2.728	2.046	1.773
.082	200	82392S2	6.545	5.236	3.273	2.618	1.964	1.702	82392S4	6.82	5.456	3.41	2.728	2.046	1.773
.1	200	10492S2	6.60	5.28	3.30	2.64	1.98	1.716	10492S4	6.875	5.50	3.438	2.75	2.063	1.788
.15	200	15492S2	6.655	5.324	3.328	2.662	1.997	1.73	15492S4	6.93	5.544	3.465	2.772	2.079	1.802
.22	200	22492S2	6.655	5.324	3.328	2.662	1.997	1.73	22492S4	6.93	5.544	3.465	2.772	2.079	1.802
.27	200	27492S2	7.04	5.632	3.52	2.816	2.112	1.83	27492S4	7.315	5.852	3.658	2.926	2.195	1.902
.33	200	33492S2	7.315	5.852	3.658	2.926	2.195	1.902	33492S4	7.59	6.072	3.795	3.036	2.277	1.973
.47	200	47492S2	7.865	6.292	3.933	3.146	2.36	2.045	47492S4	8.25	6.60	4.125	3.30	2.475	2.145
.56	200	56492S2	7.92	6.336	3.96	3.168	2.376	2.059	56492S4	8.305	6.644	4.153	3.322	2.492	2.159
.68	200	68492S2	7.975	6.38	3.988	3.19	2.393	2.074	56492S4	8.36	6.688	4.18	3.344	2.508	2.174
.82	200	82492S2	8.47	6.776	4.235	3.388	2.541	2.202	68492S4	8.745	6.996	4.373	3.498	2.624	2.274
1.0	200	10592S2	8.525	6.82	4.263	3.41	2.558	2.217	82492S4	8.91	7.128	4.455	3.564	2.673	2.317
1.5	200	15592S2	12.045	9.636	6.023	4.818	3.614	3.132	10592S4	12.43	9.944	6.215	4.972	3.729	3.232
2.0	200	20592S2	14.41	11.528	7.206	5.764	4.323	3.747	15592S4	14.85	11.88	7.425	5.94	4.455	3.861
3.0	200	30592S2	15.015	12.012	7.508	6.006	4.505	3.904	20592S4	15.455	12.364	7.728	6.182	4.637	4.018
4.0	200	40592S2	16.17	12.936	8.085	6.468	4.851	4.204	30592S4	16.72	13.376	8.36	6.688	5.016	4.347
5.0	200	50592S2	17.655	14.124	8.828	7.062	5.297	4.59	40592S4	18.315	14.652	9.158	7.326	5.495	4.762
6.0	200	60592S2	20.24	16.192	10.12	8.096	6.072	5.262	50592S4	20.90	16.72	10.45	8.36	6.27	5.434
8.0	200	80592S2	20.735	16.588	10.368	8.294	6.221	5.391	60592S4	21.395	17.116	10.698	8.558	6.419	5.563
10.0	200	10692S2	22.00	17.60	11.00	8.80	6.60	5.72	80592S4	22.66	18.128	11.33	9.064	6.798	5.892
12.0	200	12692S2	25.19	20.152	12.595	10.076	7.557	6.549	12692S4	25.85	20.68	12.925	10.34	7.755	6.721
.15	400	15494S2	7.755	6.204	3.878	3.102	2.327	2.016	15494S4	8.14	6.512	4.07	3.256	2.442	2.116
1.0	400	10594S2	11.99	9.592	5.995	4.796	3.597	3.117	10594S4	12.54	10.032	6.27	5.016	3.762	3.26
2.0	400	20594S2	16.72	13.376	8.36	6.688	5.016	4.347	20594S4	17.38	13.904	8.69	6.952	5.214	4.519
3.0	400	30594S2	19.635	15.708	9.818	7.854	5.891	5.105	30594S4	20.295	16.236	10.148	8.118	6.089	4.277
.01	600	10396S2	6.545	5.236	3.273	2.618	1.964	1.702	10396S4	6.82	5.456	3.41	2.728	2.046	1.773
.047	600	47396S2	6.655	5.324	3.328	2.662	1.997	1.73	47396S4	6.93	5.544	3.465	2.772	2.079	1.802
.1	600	10496S2	7.70	6.16	3.85	3.08	2.31	2.002	10496S4	8.085	6.468	4.043	3.234	2.426	2.102
.15	600	15496S2	7.975	6.38	3.988	3.19	2.393	2.074	15496S4	8.36	6.688	4.18	3.344	2.508	2.174
.22	600	22496S2	8.47	6.776	4.235	3.388	2.541	2.202	22496S4	8.855	7.084	4.428	3.542	2.657	2.302
.33	600	33496S2	9.35	7.48	4.675	3.74	2.805	2.431	33496S4	9.735	7.788	4.868	3.894	2.921	2.531
.47	600	47496S2	10.23	8.184	5.115	4.092	3.069	2.66	47496S4	10.67	8.536	5.335	4.268	3.201	2.774
1.0	600	10596S2	14.575	11.66	7.288	5.83	4.373	3.79	10596S4	15.235	12.188	7.618	6.094	4.571	3.961
2.0	600	20596S2	18.645	14.916	9.323	7.458	5.594	4.848	20596S4	19.305	15.444	9.653	7.722	5.792	5.019
2.5	600	25596S2	21.23	16.984	10.615	8.492	6.369	5.52	25596S4	21.89	17.512	10.945	8.756	6.567	5.691

Order by complete Sprague number; example: **118P10392S2.** ***500-999 Quantity Prices on Request.**

GREENLEE CHASSIS PUNCHES



Greenlee Series 730 Chassis Punches—Cut clean, accurate holes in radio chassis for connectors, tube sockets and other receptacles. Operates simply with ordinary wrench for drive power. No reaming or filing necessary, the hole is smooth and perfect. Will cut holes in chassis up to 16-gauge metal. Average Shipping Weight, 1½ lbs.

Part No.	Hole Size	Cap Screw	Net Each	Part No.	Hole Size	Cap Screw	Net Each
500 2408.6	½"	¼"	$4.50	500 2419.1	1¼"	⅜"	$ 5.20
500 2433.7	9/16"	¼"	4.50	500 3912.1	1⅝"	⅜"	6.55
500 2409.4	⅝"	¼"	4.50	500 2420.5	1⅜"	⅜"	6.55
500 2410.8	11/16"	⅜"	4.55	500 2421.3	1½"	⅜"	7.10
500 2411.6	¾"	⅜"	4.55	500 2422.1	1⅝"	⅜"	8.65
500 2412.4	13/16"	⅜"	4.55	500 6828.8	1¾"	⅜"	9.75
500 2413.2	⅞"	⅜"	4.55	500 2424.8	1⅞"	⅜"	12.10
500 2414.0	15/16"	⅜"	5.00	500 2425.6	2"	⅜"	12.65
500 2415.9	1"	⅜"	5.00	500 2426.4	2⅛"	⅜"	13.70
500 2416.7	1⅛"	⅜"	5.20	500 2427.2	2¼"	⅜"	14.40
500 2417.5	1¼"	⅜"	5.20	500 2429.9	2½"	⅜"	23.00
500 2428.0	1 5/32"	⅜"	5.20	500 2430.2	2¾"	⅜"	32.00
500 2418.3	1 3/16"	⅜"	5.20	500 2431.0	3"	⅜"	44.05

Greenlee Series 731 Square Radio Chassis Punches—Cut any square or oblong shapes to exact size needed.

Part No.	Hole Size	Net Each	Part No.	Hole Size	Net Each
500 2446.9	½"	$11.55	500 2448.5	⅞"	$14.70
501 3170.2	⅝"	11.40	501 3172.9	1"	15.15
501 3171.0	¾"	12.50			

No. 731-R Relay Punch—Makes 1.018" x 0.861" hole for P&B No. KHP relay socket. Starting hole, 5/16". Capacity, 16 ga.
Part No. 501 5115.0—Net Each.....**$24.60**

Greenlee Series 733 Radio Chassis "D" Punch—For high frequency miniature tube sockets. Drive screw fits ⅜" hole.
Part No. 500 2459.0—Makes ½" hole. Net Each.....**$9.95**
Part No. 500 2460.4—Makes ⅝" hole. Net Each.....**10.55**

Greenlee Series 732 Chassis "Key" Punches—Cuts slots for keyed tube sockets.

Part No.	Hole Size	Net Each	Part No.	Hole Size	Net Each
500 2451.5	1 5/32"	$10.90	500 6832.6	1 17/64"	$15.90
500 2452.3	1 5/16"	12.00	500 2455.8	1 21/64"	16.80
500 2453.1	1 11/64"	13.35			

HYDRAULIC PUNCH DRIVER

An efficient, portable hydraulic unit specifically designed for driving standard Greenlee Knockout Punches. Develops over 11 tons ram pressure. Cuts conduit holes in up to 10-gauge metal with ease. Cuts in tight places more easily too, because no wrench space is needed. Set consists of hand hydraulic pump, high pressure hose, ram, adapter screw and die sleeve. The 3-foot high-pressure hose is of heavy wire braid-reinforced oil-resistant rubber. Spring action returns piston when hydraulic pressure is released. The set handles knockout punches for cutting ½" to 4" conduit holes and all Greenlee radio chassis punches using ⅜" and larger diameter drive screws. Set is packed in sturdy metal case for easy transportation. Punches and dies not included.
Greenlee Hydraulic Knockout Punch Driver Model 7646—Complete Set. Weight, 20 lbs. Net Each.....**$189.00**
Write for prices on punches and individual items contained in the above set. Other Greenlee Punch Drivers are available; inquire.

TYPE 36 DX POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Similar to the type 36D, but with extended capacitance ratings (higher capacitance, smaller cases) required in new designs. Capacitors listed have outer plastic-film insulation; for bare case, change 14th digit of part number from **2** to **8**. Capacitors listed also have low-insert terminals; for high-insert or solder-lug terminals, change last character of part number from **A** to **B** or **C**, respectively.

Sprague Number	Cap., µF	*
10 WVDC		
36DX902G010AA2A	9000	AA1
36DX183G010AB2A	18,000	AB1
36DX273G010AC2A	27,000	AC1
36DX413G010AF2A	41,000	AF1
36DX583G010BC2A	58,000	BC1
36DX883G010BF2A	88,000	BF1
36DX104G010CC2A	100,000	CC1
36DX154G010CF2A	150,000	CF1
36DX154G010DC2A	150,000	DC1
36DX234G010DF2A	230,000	DF1
36DX394G010DJ2A	390,000	DJ1
15 WVDC		
36DX752G015AA2A	7500	AA1
36DX153G015AB2A	15,000	AB1
36DX223G015AC2A	22,000	AC1
36DX343G015AF2A	34,000	AF1
36DX503G015BC2A	50,000	BC1
36DX753G015BF2A	75,000	BF1
36DX833G015CC2A	83,000	CC1
36DX124G015CF2A	120,000	CF1
36DX124G015DC2A	120,000	DC1
36DX184G015DF2A	180,000	DF1
36DX304G015DJ2A	300,000	DJ1
25 WVDC		
36DX452G025AA2A	4500	AA1
36DX902G025AB2A	9000	AB1
36DX133G025AC2A	13,000	AC1
36DX203G025AF2A	20,000	AF1
36DX303G025BC2A	30,000	BC1
36DX453G025BF2A	45,000	BF1
36DX503G025CC2A	50,000	CC1
36DX753G025CF2A	75,000	CF1
36DX753G025DC2A	75,000	DC1
36DX114G025DF2A	110,000	DF1
36DX194G025DJ2A	190,000	DJ1

Sprague Number	Cap., µF	*
30 WVDC		
36DX402G030AA2A	4000	AA1
36DX802G030AB2A	8000	AB1
36DX123G030AC2A	12,000	AC1
36DX183G030AF2A	18,000	AF1
36DX263G030BC2A	26,000	BC1
36DX393G030BF2A	39,000	BF1
36DX443G030CC2A	44,000	CC1
36DX663G030CF2A	66,000	CF1
36DX663G030DC2A	66,000	DC1
36DX973G030DF2A	97,000	DF1
36DX164G030DJ2A	160,000	DJ1
40 WVDC		
36DX292G040AA2A	2900	AA1
36DX582G040AB2A	5800	AB1
36DX872G040AC2A	8700	AC1
36DX133G040AF2A	13,000	AF1
36DX203G040BC2A	20,000	BC1
36DX303G040BF2A	30,000	BF1
36DX343G040CC2A	34,000	CC1
36DX513G040CF2A	51,000	CF1
36DX513G040DC2A	51,000	DC1
36DX763G040DF2A	76,000	DF1
36DX124G040DJ2A	120,000	DJ1
50 WVDC		
36DX242G050AA2A	2400	AA1
36DX482G050AB2A	4800	AB1
36DX722G050AC2A	7200	AC1
36DX113G050AF2A	11,000	AF1
36DX163G050BC2A	16,000	BC1
36DX243G050BF2A	24,000	BF1
36DX273G050CC2A	27,000	CC1
36DX403G050CF2A	40,000	CF1
36DX413G050DC2A	41,000	DC1
36DX613G050DF2A	61,000	DF1
36DX104G050DJ2A	100,000	DJ1
75 WVDC		
36DX142G075AA2A	1400	AA2
36DX282G075AB2A	2800	AB2
36DX422G075AC2A	4200	AC2
36DX632G075AF2A	6300	AF2
36DX103G075BC2A	10,000	BC2
36DX153G075BF2A	15,000	BF2
36DX173G075CC2A	17,000	CC2
36DX253G075CF2A	25,000	CF2
36DX253G075DC2A	25,000	DC2
36DX373G075DF2A	37,000	DF2
36DX603G075DJ2A	60,000	DJ2
100 WVDC		
36DX851G100AA2A	850	AA2
36DX172G100AB2A	1700	AB2
36DX262G100AC2A	2600	AC2
36DX382G100AF2A	3800	AF2
36DX582G100BC2A	5800	BC2
36DX872G100BF2A	8700	BF2

Sprague Number	Cap., µF	*
100 WVDC (CONT'D)		
36DX982G100CC2A	9800	CC2
36DX153G100CF2A	15,000	CF2
36DX153G100DC2A	15,000	DC2
36DX213G100DF2A	21,000	DF2
36DX363G100DJ2A	36,000	DJ2
200 WVDC		
36DX301F200AA2A	300	AA3
36DX591F200AB2A	590	AB3
36DX851F200AC2A	850	AC3
36DX122F200AF2A	1200	AF3
36DX142F200BB2A	1400	BB1
36DX202F200BC2A	2000	BC3
36DX292F200BF2A	2900	BF3
36DX342F200CC2A	3400	CC3
36DX492F200CF2A	4900	CF3
36DX742F200DF2A	7400	DF3
36DX123F200DJ2A	12,000	DJ3
250 WVDC		
36DX251F250AA2A	250	AA3
36DX501F250AB2A	500	AB3
36DX741F250AC2A	740	AC3
36DX112F250AF2A	1100	AF3
36DX122F250BB2A	1200	BB1
36DX172F250BC2A	1700	BC3
36DX252F250BF2A	2500	BF3
36DX292F250CC2A	2900	CC3
36DX422F250CF2A	4200	CF3
36DX632F250DF2A	6300	DF3
36DX103F250DJ2A	10,000	DJ3
350 WVDC		
36DX131F350AA2A	130	AA3
36DX261F350AB2A	260	AB3
36DX381F350AC2A	380	AC3
36DX581F350AF2A	580	AF3
36DX611F350BB2A	610	BB1
36DX881F350BC2A	880	BC3
36DX132F350BF2A	1300	BF3
36DX152F350CC2A	1500	CC3
36DX222F350CF2A	2200	CF3
36DX332F350DF2A	3300	DF3
36DX512F350DJ2A	5100	DJ3
450 WVDC		
36DX800F450AA2A	80	AA3
36DX161F450AB2A	160	AB3
36DX231F450AC2A	230	AC3
36DX351F450AF2A	350	AF3
36DX381F450BB2A	380	BB1
36DX541F450BC2A	540	BC3
36DX801F450BF2A	800	BF3
36DX931F450CC2A	930	CC3
36DX132F450CF2A	1300	CF3
36DX202F450DF2A	2000	DF3
36DX312F450DJ2A	3100	DJ3

★CASE SIZES AND PRICES

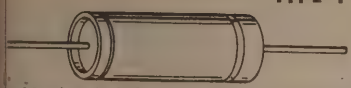
Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
AA1	1¾ x 2½	$ 4.53	$ 3.78	$ 2.16	$ 1.96	$ 1.81
AA2	1⅝ x 2½	4.92	4.10	2.35	2.13	1.97
AA3	1⅝ x 2⅛	5.28	4.40	2.52	2.29	2.11
AB1	1⅝ x 3½	5.70	4.75	2.72	2.47	2.28
AB2	1¾ x 3½	6.15	5.13	2.93	2.67	2.46
AB3	1⅝ x 3½	6.45	5.38	3.08	2.80	2.58
AC1	1⅝ x 4½	6.63	5.53	3.16	2.87	2.65
AC2	1⅝ x 4½	7.83	6.53	3.73	3.39	3.13
AC3	1⅝ x 4½	8.07	6.73	3.85	3.50	3.23
AF1	1⅝ x 5⅝	9.00	7.50	4.29	3.90	3.60
AF2	1⅝ x 5⅝	10.65	8.88	5.08	4.62	4.26
AF3	1⅝ x 5⅝	9.84	8.20	4.69	4.26	3.94
BB1	2 x 3½	11.49	9.58	5.48	4.98	4.60
BC1	2 x 4½	11.73	9.78	5.59	5.08	4.69
BC2	2 x 4½	14.55	12.13	6.94	6.31	5.82
BC3	2 x 4½	14.28	11.90	6.81	6.19	5.71

Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
BF1	2 x 5⅝	$15.03	$12.53	$ 7.16	$ 6.51	$ 6.01
BF2	2 x 5⅝	18.75	15.63	8.94	8.13	7.50
BF3	2 x 5⅝	18.45	15.38	8.80	8.00	7.38
CC1	2½ x 4½	17.46	14.55	8.32	7.57	6.98
CC2	2½ x 4½	21.12	17.60	10.07	9.15	8.45
CC3	2½ x 4½	22.83	19.03	10.88	9.89	9.13
CF1	2½ x 5⅝	22.20	18.50	10.58	9.62	8.88
CF2	2½ x 5⅝	29.04	24.20	13.84	12.58	11.62
CF3	2½ x 5⅝	29.76	24.80	14.19	12.90	11.90
DF1	3 x 5⅝	32.22	26.85	15.36	13.96	12.89
DF2	3 x 5⅝	40.77	33.98	19.43	17.67	16.31
DF3	3 x 5⅝	41.22	34.35	19.65	17.86	16.49
DJ1	3 x 8⅜	53.01	44.18	25.27	22.97	21.20
DJ2	3 x 8⅜	66.93	55.78	31.90	29.00	26.77
DJ3	3 x 8⅜	65.70	54.75	31.32	28.47	26.28

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.

TYPE 112D 85° C TYPE TANTALEX® CAPACITORS



Designed for military and industrial equipment where small physical size, stable electrical characteristics and long life are important. Offer high capacitance stability even at low operating temperatures, unlike aluminum foil electrolytics. Extremely low leakage current. End-seal design is virtually leakproof using TFE-fluorocarbon elastomer seal. These units are also available in comparable MIL types; order by complete MIL-C-3965B type style designation. **Tolerance:** −15%, +75% to 30 V; −15%, +50% to 75 V; −15% to +30% to 150 V; ±20% 200 V up.

STANDARD POLARIZED ETCHED-FOIL CONSTRUCTION

Sprague No. 112D-*‡	Cap., μF	WV DC	Net Each, Lots of 1-9	10-24	25-49	50-99	100-499	500-999
156C7015D1	15	15	$ 5.92	$ 4.44	$ 3.33	$2.22	$1.92	$1.70
366C7015D1	36	15	6.84	5.13	3.85	2.57	2.22	2.05
606C7015G1	60	15	8.76	6.57	4.93	3.29	2.85	2.63
137C7015G1	130	15	10.44	7.83	5.87	3.92	3.39	3.13
207C7015J1	200	15	15.20	11.40	8.55	5.70	4.94	4.56
377C7015J1	370	15	18.60	13.95	10.46	6.98	6.05	5.85
407C7015M1	400	15	23.24	17.43	13.07	8.72	7.55	6.97
587C7015P1	580	15	30.28	22.71	17.03	11.36	9.84	9.08
787C7015M1	780	15	31.80	23.85	17.89	11.93	10.34	9.54
118C7015P1	1100	15	43.20	32.40	24.30	16.20	14.04	12.96
208C7015R1	2000	15	75.48	56.61	42.46	28.31	24.53	22.64
258C7015Y1	2500	15	92.48	69.36	52.02	34.68	30.06	27.74
106C7025D1	10	25	5.92	4.44	3.33	2.20	1.92	1.78
236C7025D1	23	25	5.92	4.44	3.33	2.20	1.92	1.78
406C7025G1	40	25	8.04	6.03	4.52	3.02	2.61	2.41
806C7025G1	80	25	8.84	6.63	4.97	3.32	2.87	2.65
127C7025J1	120	25	13.00	9.75	7.31	4.88	4.23	3.90
247C7025J1	240	25	15.88	11.91	8.93	5.96	5.16	4.76
257C7025M1	250	25	19.36	14.52	10.89	7.26	6.29	5.81
357C7025P1	350	25	25.16	18.87	14.15	9.44	8.18	7.55
517C7025M1	510	25	32.56	24.42	18.32	12.21	10.58	9.77
727C7025P1	720	25	25.80	19.35	14.51	9.68	8.39	7.74
138C7025R1	1300	25	56.84	42.63	31.97	21.32	18.47	17.05
168C7025Y1	1600	25	73.40	55.05	41.29	27.53	23.86	22.02
105C7030D1	8	30	5.92	4.44	3.33	2.22	1.92	1.78
196C7030D1	19	30	5.92	4.44	3.33	2.22	1.92	1.78
326C7030G1	32	30	8.04	6.03	4.52	3.02	2.61	2.41
676C7030G1	67	30	10.44	7.83	5.87	3.92	3.39	3.13
117C7030J1	110	30	13.00	9.75	7.31	4.88	4.23	3.90
207C7030J1	200	30	15.88	11.91	8.93	5.96	5.16	4.76
227C7030M1	220	30	19.36	14.52	10.89	7.26	6.29	5.81
307C7030P1	300	30	25.16	18.87	14.15	9.44	8.18	7.55
427C7030M1	420	30	25.80	19.35	14.51	9.68	8.39	7.74
597C7030P1	590	30	25.80	19.35	14.51	9.68	8.39	7.74
118C7030R1	1100	30	56.84	42.63	31.97	21.32	18.47	17.05
148C7030Y1	1400	30	73.40	55.05	41.29	27.53	23.86	22.02
455C5050D1	4.5	50	5.92	4.44	3.33	2.22	1.92	1.78
805C5050D1	8	50	5.92	4.44	3.33	2.22	1.92	1.78
186C5050G1	18	50	8.04	6.03	4.52	3.02	2.61	2.41
296C5050G1	29	50	10.44	7.83	5.87	3.92	3.39	3.13
606C5050J1	60	50	13.36	10.02	7.52	5.01	4.34	4.01
856C5050J1	85	50	15.88	11.91	8.93	5.96	5.16	4.76
107C5050M1	100	50	19.76	14.82	11.12	7.41	6.42	5.93
157C5050P1	150	50	26.60	19.95	14.96	9.98	8.65	7.98
187C5050M1	180	50	28.32	21.24	15.93	10.62	9.20	8.50
267C5050P1	260	50	33.08	24.81	18.61	12.41	10.75	9.92
477C5050R1	470	50	56.84	42.63	31.97	21.32	18.47	17.05
587C5050Y1	580	50	64.08	48.06	36.05	24.03	20.83	19.22
305C5075D1	3	75	5.92	4.44	3.33	2.22	1.92	1.78
405C5075D1	4	75	5.92	4.44	3.33	2.22	1.92	1.78
126C5075G1	12	75	8.04	6.03	4.52	3.02	2.61	2.41
156C5075G1	15	75	10.44	7.83	5.87	3.92	3.39	3.13
306C5075J1	30	75	13.00	9.75	7.31	4.88	4.23	3.90
456C5075J1	45	75	15.88	11.91	8.93	5.96	5.16	4.76
706C5075M1	70	75	24.24	18.18	13.64	9.09	7.88	7.27
956C5075M1	95	75	27.28	20.46	15.35	10.23	8.87	8.18
107C5075P1	100	75	27.60	20.70	15.53	10.35	8.97	8.28
137C5075P1	130	75	28.32	21.24	15.93	10.62	9.20	8.50
257C5075R1	250	75	54.08	40.56	30.42	20.28	17.58	16.22
307C5075Y1	300	75	64.08	48.06	36.05	24.03	20.83	19.22
205C3100D1	2	100	5.92	4.44	3.33	2.22	1.92	1.78
305C3100D1	3	100	5.92	4.44	3.33	2.22	1.92	1.78
805C3100G1	8	100	8.04	6.03	4.52	3.02	2.61	2.41
106C3100G1	10	100	10.44	7.83	5.87	3.92	3.39	3.31
256C3100J1	25	100	13.36	10.02	7.52	5.01	4.34	4.01
306C3100J1	30	100	15.88	11.91	8.93	5.96	5.16	4.76
506C3100M1	50	100	23.24	17.43	13.07	8.72	7.55	6.97
636C3100M1	63	100	25.80	19.35	14.51	9.68	8.39	7.74
706C3100P1	70	100	27.60	20.70	15.53	10.35	8.97	8.28
906C3100P1	90	100	25.80	19.35	14.51	9.68	8.39	7.74
177C3100R1	170	100	54.08	40.56	30.42	20.28	17.58	16.22
217C3100Y1	210	100	64.08	48.06	36.05	24.03	20.83	19.22
105C3150D1	1	150	5.92	4.44	3.33	2.22	1.92	1.78
165C3150D1	1.6	150	5.92	4.44	3.33	2.22	1.92	1.78
405C3150G1	4	150	8.04	6.03	4.52	3.02	2.61	2.41
555C3150G1	5.5	150	10.44	7.83	5.87	3.92	3.39	3.13
136C3150J1	13	150	13.00	9.75	7.31	4.88	4.23	3.91
176C3150J1	17	150	15.88	11.91	8.93	5.96	5.16	4.76
256C3150M1	25	150	19.76	14.82	11.12	7.41	6.42	5.93
356C3150M1	35	150	25.80	19.35	14.51	9.68	8.39	7.74
366C3150P1	36	150	25.16	18.87	14.15	9.44	8.18	7.55
506C3150P1	50	150	33.80	24.81	18.61	12.41	10.75	9.92
906C3150R1	90	150	47.88	35.91	26.93	17.96	15.56	14.36
127C3150Y1	120	150	59.08	44.31	33.23	22.16	19.20	17.72

TYPE 112D (CONT'D)

Sprague No. 112D-*‡	Cap., μF	WV DC	Net Each, Lots of 1-9	10-24	25-49	50-99	100-499	500-999
305X0200G1	3	200	$14.04	$10.53	$ 7.90	$5.27	$4.56	$4.21
905X0200J1	9	200	20.40	15.30	11.48	7.65	6.63	6.12
196X0200M1	19	200	31.76	23.82	17.87	11.91	10.32	9.53
276X0200P1	27	200	40.04	30.03	22.52	15.02	13.01	12.01
556X0200R1	55	200	66.76	50.07	37.55	25.04	21.70	20.03
666X0200Y1	66	200	78.32	58.74	44.06	29.37	25.45	23.50
205X0250G1	2	250	14.04	10.53	7.90	5.27	4.56	4.21
605X0250J1	6	250	20.40	15.30	11.48	7.65	6.63	6.12
136X0250M1	13	250	31.76	23.82	17.87	11.91	10.32	9.53
196X0250P1	19	250	40.04	30.03	22.52	15.02	13.01	12.01
376X0250R1	37	250	66.76	50.07	37.55	25.04	21.70	20.03
456X0250Y1	45	250	78.32	58.74	44.06	29.37	25.45	23.50
185X0300G1	1.8	300	14.04	10.53	7.90	5.27	4.56	4.21
505X0300J1	5	300	20.40	15.30	11.48	7.65	6.63	6.12
116X0300M1	11	300	31.76	23.82	17.87	11.91	10.32	9.53
156X0300P1	15	300	40.04	30.03	22.52	15.02	13.01	12.01
286X0300R1	28	300	66.76	50.07	37.55	25.04	21.70	20.03

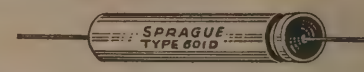
*Bare tube without sleeve; for plastic sleeve, change suffix **1** to **0** and deduct 2¢ from net. Other sleeves on request. ‡Next to last character in Sprague number indicates size in inches, dia. x lg.: **D**, .203 x .812; **G**, .296 x 1.0; **J**, .390 x 1.562; **M**, .390 x 2.250; **P**, .390 x 2.875; **R**, .483 x 2.875; **Y**, .546 x 2.875.

OUR STOCKS ARE COMPLETE AND UP TO DATE. WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY—JUST USE THE MANUFACTURER'S MODEL NUMBERS.

SPRAGUE Electrolytic Capacitors

TYPE 601D EXTRALYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Supplement Type 600D Extralytic capacitors with larger case sizes and higher capacitance values. Unique new electrolyte, high-gain etched foil, and improved oxide system for long life with superior electrical characteristics. Designed to operate at a temperature range of −55° C to +85° C. Pressure-sensitive safety vent. Tolerance: −10, +75% thru 50 WVDC; −10, +50%, 75 WVDC up.



5 WVDC; 7 V SURGE

Sprague Number	Cap., µF	Size *
601D757G005FE4	750	A
601D128G005GE4	1200	G
601D158G005FJ4	1500	B
601D178G005HE4	1700	M
601D238G005FL4	2300	C
601D248G005GJ4	2400	H
601D278G005FP4	2700	D
601D358G005FS4	3500	E
601D368G005GL4	3600	I
601D428G005FT4	4200	F
601D438G005GP4	4300	J
601D478G005JJ4	4700	T
601D528G005HL4	5200	O
601D558G005GS4	5500	K
601D618G005HP4	6100	P
601D678G005GT4	6700	L
601D718G005JL4	7100	U
601D798G005HS4	7900	Q
601D838G005JP4	8300	V
601D968G005HT4	9600	R
601D109G005JS4	10000	W
601D139G005JT4	13000	X

7.5 WVDC; 10 V SURGE

601D657G7R5FE4	650	A
601D108G7R5GE4	1000	G
601D138G7R5FJ4	1300	B
601D148G7R5HE4	1400	M
601D198G7R5FL4	1900	C
601D208G7R5GJ4	2000	H
601D228G7R5FP4	2200	D
601D298G7R5FS4	2900	E
601D308G7R5GL4	3000	I
601D358G7R5FT4	3500	F
601D368G7R5GP4	3600	J
601D408G7R5JJ4	4000	T
601D448G7R5HL4	4400	O
601D468G7R5GS4	4600	K
601D518G7R5HP4	5100	P
601D568G7R5GT4	5600	L
601D608G7R5JL4	6000	U
601D668G7R5HS4	6600	Q
601D708G7R5JP4	7000	V
601D818G7R5HT4	8100	R
601D908G7R5JS4	9000	W
601D119G7R5JT4	11000	X

10 WVDC; 15 V SURGE

601D547G010FE4	540	A
601D857G010GE4	850	G
601D108G010FJ4	1000	B
601D128G010HE4	1200	M
601D168G010FL4	1600	C
601D178G010GJ4	1700	H
601D188G010FP4	1800	D
601D248G010FS4	2400	E
601D258G010GL4	2500	I
601D298G010FT4	2900	F
601D308G010GP4	3000	J
601D338G010JJ4	3300	T
601D368G010HL4	3600	O
601D388G010GS4	3800	K
601D428G010HP4	4200	P
601D478G010GT4	4700	L
601D508G010JL4	5000	U
601D558G010HS4	5500	Q
601D588G010JP4	5800	V
601D678G010HT4	6700	R
601D758G010JS4	7500	W
601D918G010JT4	9100	X

15 WVDC; 20 V SURGE

Sprague Number	Cap., µF	Size *
601D407G015FE4	400	A
601D657G015GE4	650	G
601D807G015FJ4	800	B
601D937G015HE4	930	M
601D128G015FL4	1200	C
601D138G015GJ4	1300	H
601D148G015FP4	1400	D
601D188G015FS4	1800	E
601D198G015GL4	1900	I
601D228G015FT4	2200	F
601D258G015JJ4	2500	T
601D278G015HL4	2700	O
601D298G015GS4	2900	K
601D328G015HP4	3200	P
601D358G015GT4	3500	L
601D388G015JL4	3800	U
601D428G015HS4	4200	Q
601D448G015JP4	4400	V
601D518G015HT4	5100	R
601D578G015JS4	5700	W
601D698G015JT4	6900	X

20 WVDC; 30 V SURGE

601D297G020FE4	290	A
601D467G020GE4	460	G
601D587G020FJ4	580	B
601D667G020HE4	660	M
601D907G020GJ4	900	H
601D108G020FP4	1000	D
601D138G020FS4	1300	E
601D168G020FT4	1600	F
601D188G020JJ4	1800	T
601D198G020HL4	1900	O
601D208G020GS4	2000	K
601D238G020HP4	2300	P
601D258G020GT4	2500	L
601D278G020JL4	2700	U
601D298G020HS4	2900	Q
601D318G020JP4	3100	V
601D368G020HT4	3600	R
601D408G020JS4	4000	W
601D498G020JT4	4900	X

25 WVDC; 40 V SURGE

601D227G025FE4	220	A
601D357G025GE4	350	G
601D447G025FJ4	440	B
601D507G025HE4	500	M
601D667G025FL4	660	C
601D687G025JJ4	680	S
601D707G025GJ4	700	H
601D777G025FP4	770	D
601D997G025FS4	990	E
601D108G025GL4	1000	I
601D128G025FT4	1200	F
601D138G025JJ4	1300	T
601D158G025GS4	1500	K
601D178G025HP4	1700	P
601D198G025GT4	1900	L
601D208G025JL4	2000	U
601D228G025HS4	2200	Q
601D238G025JP4	2300	V
601D278G025HT4	2700	R
601D308G025JS4	3000	W
601D378G025JT4	3700	X

30 WVDC; 45 V SURGE

Sprague Number	Cap., µF	Size *
601D197G030FE4	190	A
601D317G030GE4	310	G
601D397G030FJ4	390	B
601D447G030HE4	440	M
601D587G030FL4	580	C
601D607G030JE4	600	S
601D627G030GJ4	620	H
601D687G030FP4	680	D
601D877G030FS4	870	E
601D887G030HJ4	880	N
601D937G030GL4	930	I
601D108G030FT4	1000	F
601D128G030JJ4	1200	T
601D148G030GS4	1400	K
601D158G030HP4	1500	P
601D178G030GT4	1700	L
601D188G030JL4	1800	U
601D208G030HS4	2000	Q
601D218G030JP4	2100	V
601D248G030HT4	2400	R
601D278G030JS4	2700	W
601D338G030JT4	3300	X

40 WVDC; 60 V SURGE

601D147G040FE4	140	A
601D227G040GE4	220	G
601D277G040FJ4	270	B
601D307G040HE4	300	M
601D407G040FL4	400	C
601D437G040JE4	430	S
601D447G040GJ4	440	H
601D487G040FP4	480	D
601D627G040FS4	620	E
601D637G040HJ4	630	N
601D667G040GL4	660	I
601D767G040FT4	760	F
601D777G040GP4	770	J
601D867G040JJ4	860	T
601D957G040HL4	950	O
601D108G040GS4	1000	K
601D118G040HP4	1100	P
601D128G040GT4	1200	L
601D148G040HS4	1400	Q
601D158G040JP4	1500	V
601D178G040HT4	1700	R
601D198G040JS4	1900	W
601D238G040JT4	2300	X

50 WVDC; 75 V SURGE

601D117G050FE4	110	A
601D177G050GE4	170	G
601D227G050FJ4	220	B
601D257G050HE4	250	M
601D337G050FL4	330	C
601D347G050JE4	340	S
601D357G050GJ4	350	H
601D387G050FP4	380	D
601D507G050FS4	500	E
601D607G050FT4	600	F
601D687G050JJ4	680	T
601D757G050HL4	750	O
601D797G050GS4	790	K
601D877G050HP4	870	P
601D957G050GT4	950	L
601D108G050JL4	1000	U
601D118G050HS4	1100	Q
601D158G050JP4	1500	W
601D188G050JT4	1800	X

75 WVDC; 100 V SURGE

Sprague Number	Cap., µF	Size *
601D456F075FE4	45	A
601D756F075GE4	75	G
601D956F075FJ4	95	B
601D107F075HE4	100	M
601D147F075FL4	140	C
601D157F075GJ4	150	H
601D167F075FP4	160	D
601D217F075FS4	210	E
601D227F075GL4	220	I
601D267F075FT4	260	F
601D297F075JJ4	290	T
601D327F075HL4	320	O
601D347F075GS4	340	K
601D387F075HP4	380	P
601D407F075GT4	400	L
601D447F075JL4	440	U
601D497F075HS4	490	Q
601D507F075JP4	500	V
601D607F075HT4	600	R
601D667F075JS4	660	W
601D807F075JT4	800	X

100 WVDC; 130 V SURGE

601D256F100FE4	25	A
601D456F100GE4	45	G
601D556F100FJ4	55	B
601D656F100HE4	65	M
601D806F100FL4	80	C
601D906F100GJ4	90	H
601D956F100FP4	95	D
601D127F100FS4	120	E
601D137F100GL4	130	I
601D157F100FT4	150	F
601D187F100JJ4	180	T
601D207F100GS4	200	K
601D237F100HP4	230	P
601D257F100GT4	250	L
601D287F100JL4	280	U
601D307F100HS4	300	Q
601D327F100JP4	320	V
601D377F100HT4	370	R
601D427F100JS4	420	W
601D507F100JT4	500	X

150 WVDC; 200 V SURGE

601D186F150FE4	18	A
601D306F150GE4	30	G
601D356F150FJ4	35	B
601D456F150HE4	45	M
601D556F150FL4	55	C
601D606F150GJ4	60	H
601D656F150FP4	65	D
601D856F150FS4	85	E
601D906F150HJ4	90	N
601D956F150GL4	95	I
601D107F150FT4	100	F
601D137F150JJ4	130	T
601D147F150GS4	140	K
601D167F150HP4	160	P
601D177F150GT4	170	L
601D197F150JL4	190	U
601D217F150HS4	210	Q
601D237F150JP4	230	V
601D267F150HT4	260	R
601D297F150JS4	290	W
601D367F150JT4	360	X

200 WVDC; 250 V SURGE

601D166F200FE4	16	A
601D256F200GE4	25	G
601D306F200FJ4	30	B
601D356F200HE4	35	M
601D456F200FL4	45	C
601D506F200GJ4	50	H
601D556F200FP4	55	D
601D706F200FS4	70	E
601D756F200GL4	75	I
601D856F200FT4	85	F
601D906F200GP4	90	J
601D107F200GS4	100	K
601D117F200HL4	110	O
601D137F200HP4	130	P
601D147F200GT4	140	L
601D167F200JL4	160	U
601D177F200HS4	170	Q
601D187F200JP4	180	V
601D217F200HT4	210	R
601D247F200JS4	240	W
601D297F200JT4	290	X

TYPE 601D OEM INDUSTRIAL PRICING

Prices shown are for sleeved units as listed in tables, above.

* Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999	* Size	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
A	$4.04	$2.02	$1.77	$1.31	$1.27	M	$4.64	$2.32	$2.03	$1.51	$1.45
B	4.28	2.14	1.87	1.39	1.34	N	5.12	2.56	2.24	1.67	1.60
C	4.48	2.24	1.96	1.46	1.40	O	5.48	2.74	2.40	1.78	1.71
D	4.68	2.34	2.05	1.52	1.47	P	6.00	3.00	2.63	1.95	1.87
E	4.92	2.46	2.15	1.60	1.54	Q	6.40	3.20	2.80	2.08	2.00
F	5.16	2.58	2.26	1.68	1.62	R	6.88	3.44	3.01	2.24	2.15
G	4.32	2.16	1.89	1.40	1.35	S	5.16	2.58	2.26	1.68	1.62
H	4.60	2.30	2.01	1.49	1.44	T	5.64	2.82	2.47	1.83	1.77
I	4.92	2.46	2.15	1.60	1.54	U	6.20	3.10	2.72	2.02	1.94
J	5.24	2.62	2.29	1.70	1.64	V	6.72	3.36	2.95	2.18	2.11
K	5.48	2.74	2.40	1.78	1.71	W	7.44	3.72	3.26	2.42	2.33
L	5.84	2.92	2.56	1.89	1.83	X	7.96	3.98	3.49	2.59	2.49

***Siz (Dia. x Lg., In.):** Sleeved Units: **A**, .687 x 1.250; **B**, .687 x 1.750; **C**, .687 x 2.250; **D**, .687 x 2.750; **E**, .687 x 3.250; **F**, .687 x 3.750; **G**, .812 x 1.250; **H**, .812 x 1.750; **I**, .812 x 2.250; **J**, .812 x 2.750; **K**, .812 x 3.250; **L**, .812 x 3.750; **M**, .937 x 1.250; **N**, .937 x 1.750; **O**, .937 x 2.250; **P**, .937 x 2.750; **Q**, .937 x 3.250; **R**, .937 x 3.750; **S**, 1.062 x 1.250; **T**, 1.062 x 1.750; **U**, 1.062 x 2.250; **V**, 1.062 x 2.750; **W**, 1.062 x 3.250; **X**, 1.062 x 3.750. For Bare Units: Subtract .062 dia. x .125" lg. from sleeved sizes.

SPRAGUE TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS



Small, dependable dry electrolytic. Low leakage; long shelf life. Withstands high temp. (85° C); high ripple currents and high surge voltages. Metal case with thermoplastic outer insulating sleeve except as noted.

POLARIZED SINGLE UNITS

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
81.4	5	3	1/4 x 1 7/32	$0.84	$0.581	$0.477	$0.34
82	10	3	1/4 x 1 7/32	.78	.535	.44	.314
82.5	15	3	1/4 x 1 7/32	.84	.581	.477	.34
84	25	3	1/4 x 1 7/32	.60	.406	.334	.238
84.5	30	3	1/4 x 1 7/32	.93	.63	.52	.37
89.5	130	3	5/16 x 2 3/32	.96	.662	.544	.388
91.5	250	3	3/8 x 2 7/32	1.08	.746	.614	.437
93	400	3	3/8 x 3 1/32	1.11	.764	.628	.448
95	600	3	3/8 x 1 29/32	1.17	.809	.666	.474
97.3	1000	3	5/16 x 1 17/32	1.74	1.203	.99	.705
97.4	1200	3	5/16 x 1 17/32	1.74	1.203	.99	.705
97.5	1500	3	1/2 x 1 17/32	1.77	1.233	1.014	.723
97.7	2000	3	1/2 x 1 17/32	1.77	1.233	1.014	.723
97.8	2200	3	1/2 x 1 13/16	1.89	1.299	1.069	.762
97.9	2500	3	1/2 x 1 13/16	1.89	1.299	1.069	.762
98	3000	3	1/2 x 1 21/32	2.40	1.669	1.373	.978
99.6	10000	3	1/2 x 2 5/32	3.36	2.328	1.915	1.365
99.80	1	6	1/4 x 1 7/32	2.61	1.814	1.492	1.063
99.81	2	6	1/4 x 1 7/32	.84	.581	.477	.34
99.82	3	6	1/4 x 1 7/32	.84	.581	.477	.34
99.83	4	6	1/4 x 1 7/32	.84	.581	.477	.34
99.86	8	6	1/4 x 1 7/32	.84	.581	.477	.34
99.90	20	6	1/4 x 1 7/32	2.61	1.81	1.49	1.06
100.5	75	6	5/16 x 2 5/32	1.17	.797	.656	.467
100.6	90	6	5/16 x 2 5/32	.96	.662	.544	.388
101.2	140	6	5/16 x 2 7/32	.99	.674	.554	.395
101.5	150	6	5/16 x 2 7/32	1.17	.797	.656	.467
101.7	200	6	3/8 x 2 7/32	1.20	.836	.688	.49
102	250	6	3/8 x 3 1/32	1.20	.836	.688	.49
102.1	300	6	3/8 x 3 1/32	1.23	.848	.698	.497
102.3	400	6	3/8 x 1 29/32	1.23	.854	.703	.501
103	500	6	3/8 x 1 17/32	1.23	.854	.703	.501
103.4	700	6	7/16 x 1 29/32	1.35	.932	.767	.547
104	1000	6	1/2 x 1 29/32	1.47	1.014	.834	.594
104.1	1200	6	1/2 x 1 17/32	1.77	1.233	1.014	.723
105	1500	6	1/2 x 1 17/32	1.29	.887	.73	.52
105.1	1800	6	1/2 x 1 25/32	1.89	1.299	1.069	.762
106	2000	6	1/2 x 1 25/32	1.77	1.227	1.009	.719
106.5	2500	6	3/4 x 1 21/32	2.25	1.552	1.277	.91
108	4000	6	7/8 x 1 29/32	2.64	1.841	1.514	1.079
129.4	4000	10	7/8 x 1 29/32	3.81	2.64	2.18	1.55
129.5	5000	10	1 x 2 5/32	3.51	2.45	2.01	1.44
129.8	10000	10	1 1/8 x 2 11/16	4.47	3.11	2.56	1.82
129.82	3	12	1/4 x 1 7/32	.84	.581	.477	.34
129.86	8	12	1/4 x 1 7/32	.84	.581	.477	.34
129.95	60	12	5/16 x 2 5/32	.96	.662	.544	.388
129.96	75	12	5/16 x 2 7/32	.96	.653	.537	.383
129.97	90	12	3/8 x 2 5/32	1.02	.71	.584	.416
130.2	140	12	3/8 x 2 7/32	.99	.677	.557	.397
131	250	12	3/8 x 1 29/32	1.20	.818	.673	.48
131.1	290	12	3/8 x 1 29/32	1.23	.854	.703	.501
131.2	390	12	3/8 x 1 17/32	1.35	.942	.774	.552
132.5	900	12	1/2 x 1 13/16	1.74	1.203	.99	.705
133.5	1500	12	3/4 x 1 21/32	2.40	1.669	1.373	.978
134.5	2500	12	7/8 x 1 21/32	2.76	1.919	1.578	1.125
135	3000	12	7/8 x 2 5/32	3.36	2.33	1.92	1.37
136.1	5000	12	1 x 2 13/32	3.60	2.509	2.063	1.47
147	20	16	1/4 x 2 3/32	1.02	.71	.584	.416
148	25	16	1/4 x 2 3/32	1.02	.71	.584	.416
149.1	35	16	5/16 x 2 3/32	.87	.608	.50	.356
150	50	16	5/16 x 2 3/32	1.05	.725	.596	.425
151	75	16	5/16 x 2 7/32	1.17	.797	.656	.467
153	90	16	5/16 x 2 7/32	.99	.674	.554	.395
160	100	16	3/8 x 2 7/32	1.17	.797	.656	.467
160.3	150	16	3/8 x 3 1/32	1.20	.836	.688	.49
160.4	175	16	3/8 x 3 1/32	1.23	.848	.698	.497
160.6	200	16	3/8 x 1 29/32	1.23	.848	.698	.497
161	250	16	3/8 x 1 29/32	1.23	.854	.703	.501
161.1	300	16	3/8 x 1 17/32	1.23	.854	.703	.501
162	500	16	7/16 x 1 17/32	1.47	1.014	.834	.594
162.2	600	16	7/16 x 1 17/32	1.47	1.014	.834	.594
162.3	800	16	1/2 x 1 29/32	1.29	.887	.73	.52
163	1000	16	1/2 x 1 13/16	1.29	.887	.73	.52
164	1200	16	1/2 x 1 13/16	1.77	1.227	1.009	.719
175.2	1500	16	13/16 x 1 21/32	2.49	1.727	1.42	1.012
170*	2000	16	13/16 x 1 21/32	2.07	1.432	1.178	.839
175.3	2500	16	7/8 x 1 29/32	2.94	2.051	1.687	1.202
175	3000	16	7/8 x 1 29/32	3.33	2.32	1.91	1.36
175.4	4000	16	1 5/16 x 2 5/32	3.90	2.70	2.22	1.58
175.5	5000	16	1 x 2 5/32	3.90	2.71	2.23	1.59
175.6	6000	16	1 1/8 x 2 5/32	5.28	3.66	3.01	2.15
175.7	8000	16	1 1/8 x 2 11/16	5.40	3.76	3.09	2.20
175.8	10000	16	1 1/4 x 2 11/16	6.18	4.30	3.53	2.52
175.11	15000	16	1 1/4 x 3 11/16	7.98	5.50	4.57	3.26
175.13	20000	16	1 3/8 x 4 3/32	8.97	6.191	5.092	3.665
180	150	20	3/8 x 3 1/32	1.23	.848	.698	.497
190	1500	20	7/8 x 1 21/32	2.07	1.432	1.178	.839
194	2300	20	1 x 1 21/32	3.27	2.26	1.86	1.33
203.3	8	25	1/4 x 1 7/32	1.02	.71	.584	.416
204	10	25	1/4 x 2 3/32	1.02	.71	.584	.416
204.2	15	25	1/4 x 2 3/32	1.02	.71	.584	.416
204.5	20	25	5/16 x 2 3/32	1.05	.725	.596	.425
205	25	25	5/16 x 2 3/32	1.05	.725	.596	.425
205.1	30	25	5/16 x 2 3/32	1.05	.725	.596	.425
205.2	35	25	5/16 x 2 7/32	1.17	.797	.656	.467

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
1205.7	40	25	5/16 x 2 7/32	$1.17	$ .797	$ .656	$ .467
1206	50	25	5/16 x 2 7/32	1.17	.797	.656	.467
1206.1	75	25	3/8 x 2 7/32	1.20	.836	.688	.49
1207	100	25	3/8 x 3 1/32	1.20	.836	.688	.49
1207.5	150	25	3/8 x 1 29/32	1.23	.848	.698	.497
1207.7	200	25	3/8 x 1 17/32	1.23	.854	.703	.501
1208	250	25	7/16 x 1 29/32	1.38	.945	.777	.554
1208.5	300	25	7/16 x 1 17/32	1.38	.945	.777	.554
1208.6	350	25	7/16 x 1 17/32	1.29	.887	.73	.52
1208.7	400	25	1/2 x 1 5/16	1.29	.887	.73	.52
1208.8	450	25	1/2 x 1 9/16	1.29	.887	.73	.52
1209	500	25	1/2 x 1 9/16	1.29	.887	.73	.52
1209.2	600	25	1/2 x 1 13/16	1.29	.887	.73	.52
1211	1000	25	13/16 x 1 21/32	1.77	1.227	1.009	.719
1212	1500	25	7/8 x 1 29/32	2.07	1.432	1.178	.839
1213	2000	25	1 x 1 29/32	3.21	2.223	1.828	1.303
1213.5	2500	25	1 x 1 29/32	3.24	2.25	1.851	1.319
1214†	3000	25	1 x 2 5/32	5.37	3.739	3.075	2.191
1214.2	4000	25	1 1/8 x 2 11/16	5.40	3.757	3.09	2.202
1214.5	5000	25	1 1/8 x 2 11/16	5.43	3.772	3.102	2.211
1214.8	8000	25	1 1/4 x 3 11/16	7.17	4.996	4.109	2.928
1214.10	10000	25	1 3/8 x 3 11/16	8.16	5.634	4.681	3.336
1223	200	35	7/16 x 1 17/32	1.38	.945	.777	.554
1227	500	35	1/2 x 1 13/16	1.77	1.227	1.009	.719
1229	5500	35	1 x 3 13/32	5.37	3.739	3.075	2.191
1300	1	50	1/4 x 1 7/32	1.02	.71	.584	.416
1301	2	50	1/4 x 1 7/32	1.02	.71	.584	.416
1302	3	50	1/4 x 1 7/32	1.02	.71	.584	.416
1302.7	4	50	1/4 x 1 7/32	1.02	.71	.584	.416
1303	5	50	1/4 x 2 3/32	1.02	.71	.584	.416
1303.1	6	50	1/4 x 2 3/32	1.02	.71	.584	.416
1303.2	8	50	1/4 x 2 3/32	1.05	.725	.596	.425
1304	10	50	5/16 x 2 3/32	1.05	.725	.596	.425
1305	15	50	5/16 x 2 3/32	1.05	.725	.596	.425
1305.5	20	50	5/16 x 2 7/32	1.17	.797	.656	.467
1306	25	50	5/16 x 2 7/32	1.17	.797	.656	.467
1306.2	35	50	3/8 x 2 7/32	1.20	.836	.688	.49
1306.5	40	50	3/8 x 3 1/32	1.20	.836	.688	.49
1308	50	50	3/8 x 3 1/32	1.23	.848	.698	.497
1309.3	60	50	3/8 x 1 29/32	1.23	.848	.698	.497
1309.4	75	50	3/8 x 1 29/32	1.23	.854	.703	.501
1310	100	50	3/8 x 1 17/32	1.23	.854	.703	.501
1310.1	120	50	7/16 x 1 29/32	1.38	.945	.777	.554
1310.2	125	50	7/16 x 1 17/32	1.38	.945	.777	.554
1311	150	50	7/16 x 1 17/32	1.38	.945	.777	.554
1311.5	200	50	1/2 x 1 5/16	1.47	1.014	.834	.594
1312	250	50	1/2 x 1 5/16	1.29	.887	.73	.52
1312.1	300	50	1/2 x 1 9/16	1.29	.887	.73	.52
1312.2	350	50	1/2 x 1 13/16	1.77	1.227	.719	.602
1313	400	50	1/2 x 1 13/16	1.77	1.227	1.009	.719
1315	500	50	3/4 x 1 21/32	2.07	1.432	1.178	.839
1315.2	600	50	13/16 x 1 21/32	2.07	1.432	1.178	.839
1315.4	800	50	7/8 x 1 21/32	3.42	2.37	1.95	1.39
1316	1000	50	15/16 x 1 29/32	3.54	2.47	2.03	1.45
1318	1500	50	15/16 x 2 5/32	3.96	2.74	2.26	1.61
1318.2	2000	50	1 1/8 x 2 5/32	5.31	3.70	3.04	2.17
1318.3	2500	50	1 1/8 x 2 11/16	6.03	4.20	3.46	2.46
1318.4	3000	50	1 1/4 x 2 11/16	6.39	4.46	3.66	2.61
1318.5	4000	50	1 1/4 x 3 5/32	7.95	5.47	4.55	3.24
1318.7	5000	50	1 3/8 x 3 1/8	8.79	6.07	4.99	3.51
1318.10	8000	50	1 3/8 x 4 5/32	11.52	7.94	6.53	4.70
1319	250	60	1/2 x 1 5/16	1.77	1.227	1.009	.719
1319.5	500	75	1 x 2 21/32	3.75	2.60	2.14	1.52
1319.7	1000	75	1 x 2 21/32	4.26	2.97	2.44	1.74
1319.8†	1500	75	1 x 3 21/32	8.58	5.91	4.91	3.50
1319.9	2000	75	1 3/8 x 2 3/8	6.81	4.74	3.90	2.78
1321	16	90	3/8 x 3 1/32	1.20	.821	.675	.481
1333	4	100	5/16 x 2 3/32	1.26	.878	.722	.515
1335	6	100	5/16 x 2 7/32	1.32	.92	.757	.539
1337	10	100	3/8 x 2 7/32	1.35	.935	.769	.549
1338	15	100	3/8 x 3 1/32	1.35	.942	.774	.552
1339	20	100	3/8 x 1 29/32	1.50	1.041	.856	.61
1340	25	100	3/8 x 1 17/32	1.62	1.119	.92	.656
1341	30	100	3/8 x 1 17/32	1.53	1.053	.866	.617
1343	50	100	1/2 x 1 9/16	1.83	1.269	1.044	.744
1344	60	100	1/2 x 1 9/16	1.83	1.269	1.044	.744
1345	75	100	1/2 x 1 13/16	2.10	1.462	1.202	.857
1345.2	85	100	3/4 x 1 13/16	2.28	1.576	1.296	.924
1346	100	100	3/4 x 1 13/16	2.28	1.576	1.296	.924
1347	150	100	13/16 x 1 21/32	2.28	1.576	1.296	.924
1348	200	100	7/8 x 1 29/32	2.82	1.952	1.606	1.144
1349	250	100	7/8 x 1 29/32	3.63	2.52	2.07	1.48
1350	300	100	1 x 1 29/32	4.05	2.83	2.32	1.66
1376	500	100	1 1/8 x 2 5/32	5.31	3.70	3.04	2.17
1382	1500	100	1 1/4 x 3 11/16	9.81	6.75	5.56	4.00
1384	2000	100	1 3/8 x 4 5/32	11.70	8.07	6.64	4.78
1400	1	150	1/4 x 1 7/32	1.08	.755	.621	.443
1400.1	2	150	1/4 x 2 3/32	1.14	.794	.653	.465
1400.2	3	150	5/16 x 2 3/32	1.26	.878	.722	.515
1402	4	150	5/16 x 2 7/32	1.32	.92	.757	.539
1403	5	150	5/16 x 2 7/32	1.32	.92	.757	.539
1403.1	6	150	3/8 x 2 7/32	1.35	.935	.769	.548
1405	8	150	3/8 x 2 7/32	1.35	.935	.769	.548
1406	10	150	3/8 x 3 1/32	1.35	.942	.774	.552
1408	15	150	3/8 x 1 29/32	1.50	1.041	.856	.61
1409	16	150	3/8 x 1 17/32	1.50	1.041	.856	.61
1410	20	150	3/8 x 1 17/32	1.62	1.119	.92	.656
1411	25	150	7/16 x 1 29/32	1.38	.954	.784	.559
1412	30	150	7/16 x 1 17/32	1.53	1.053	.866	.617
1412.1	35	150	1/2 x 1 17/32	1.83	1.269	1.044	.744
1413	40	150	1/2 x 1 17/32	1.83	1.269	1.044	.744
1414	50	150	1/2 x 1 13/16	2.10	1.462	1.202	.857

*1-99, Kleer-Pak; 100 Up Bulk-Pack. 250 Up Bulk-Pack prices on request. *Mounting strap attached. †Single-ended with 8" flexible leads.

TYPE TVA ATOM® ELECTROLYTICS CONTINUED ON NEXT PAGE

TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
1415	60	150	1 3/16 x 1 13/32	$2.28	$1.576	$1.296	$ .924
1416	75	150	7/8 x 1 13/32	2.28	1.576	1.296	.924
1418	80	150	7/8 x 1 13/32	3.06	2.12	1.74	1.24
1420	100	150	7/8 x 1 21/32	3.30	2.30	1.89	1.35
1422	150	150	7/8 x 2 5/32	3.54	2.46	2.03	1.44
1423	200	150	1 x 2 5/32	3.99	2.77	2.28	1.63
1424*†	250	150	1 1/8 x 2 5/32	6.93	4.83	3.98	2.83
1425	300	150	1 1/8 x 2 11/16	5.31	3.70	3.04	2.18
1426.1	400	150	1 1/4 x 2 11/16	6.09	4.23	3.48	2.48
1428	500	150	1 1/4 x 3 5/32	6.72	4.67	3.85	2.74
1429	1000	150	1 3/8 x 4 5/32	10.02	6.91	5.69	4.09
1430	80	175	1 3/16 x 1 29/32	2.76	1.916	1.576	1.123
1434	1	200	1/4 x 2 3/32	1.14	.794	.653	.465
1435	2	200	5/16 x 2 3/32	1.26	.878	.722	.515
1436	3	200	5/16 x 2 7/32	1.32	.92	.757	.539
1437	4	200	3/8 x 2 7/32	1.35	.935	.769	.548
1438	5	200	3/8 x 2 7/32	1.35	.935	.769	.548
1439	6	200	3/8 x 3 1/32	1.35	.942	.774	.552
1440	8	200	3/8 x 1 9/32	1.50	1.041	.856	.61
1441	10	200	3/8 x 1 9/32	1.50	1.041	.856	.61
1442	15	200	7/16 x 1 9/32	1.38	.954	.784	.559
1442.1	20	200	7/16 x 1 17/32	1.53	1.053	.866	.617
1442.2	25	200	1/2 x 1 9/16	1.83	1.269	1.044	.744
1442.3	30	200	1/2 x 1 13/16	1.53	1.053	.866	.617
1442.5	40	200	1 3/16 x 1 13/32	2.28	1.576	1.296	.924
1443	50	200	1 3/16 x 1 21/32	2.28	1.576	1.296	.924
1445	100	200	7/8 x 2 5/32	3.99	2.76	2.27	1.62
1447*†	150	200	1 x 2 5/32	6.75	4.71	3.87	2.76
1480*†	200	200	1 1/8 x 2 11/16	7.80	5.38	4.47	3.18
1484	500	200	1 1/4 x 3 11/16	9.03	6.22	5.12	3.69
1500.1	2	250	3/8 x 2 3/32	1.35	.932	.767	.547
1500.2	3	250	3/8 x 2 7/32	1.35	.935	.769	.548
1501	4	250	3/8 x 3 1/32	1.35	.942	.774	.552
1502.1	6	250	3/8 x 1 9/32	1.50	1.041	.856	.61
1503	8	250	3/8 x 1 9/32	1.62	1.119	.92	.656
1504	10	250	7/16 x 1 9/32	1.38	.954	.784	.559
1505	12	250	7/16 x 1 17/32	1.53	1.053	.866	.617
1508	20	250	1/2 x 1 13/16	2.10	1.462	1.202	.857
1510	30	250	1 3/16 x 1 13/32	2.28	1.576	1.296	.924
1511	40	250	7/8 x 1 13/16	3.06	2.12	1.74	1.24
1512	50	250	7/8 x 1 21/32	3.21	2.23	1.83	1.31
1513	60	250	7/8 x 1 29/32	3.39	2.35	1.94	1.38
1521	85	250	7/8 x 2 5/32	3.21	2.22	1.826	1.301
1522	100	250	1 x 1 29/32	3.78	2.61	2.15	1.53
1525	150	250	1 1/8 x 2 5/32	5.13	3.57	2.94	2.09
1526	160	250	1 x 2 5/32	4.50	3.12	2.57	1.83
1528†	200	250	1 1/4 x 2 11/16	8.25	5.69	4.73	3.37
1528.2	225	250	1 x 3 5/32	5.10	3.54	2.91	2.07
1528.3	250	250	1 x 3 5/32	7.05	4.90	4.03	2.87
1528.5	300	250	1 1/4 x 3 5/32	7.35	5.07	4.21	3.00
1528.7	400	250	1 1/4 x 3 11/16	8.58	5.91	4.91	3.50
1528.8	450	250	1 3/8 x 3 11/16	8.94	6.16	5.07	3.65
1528.9	500	250	1 3/8 x 3 11/16	9.42	6.50	5.35	3.85
1529	600	250	1 3/8 x 4 5/32	11.70	8.07	6.64	4.78
1540	1	300	5/16 x 2 3/32	1.26	.878	.722	.515
1542	3	300	3/8 x 3 1/32	1.38	.963	.792	.564
1544	5	300	3/8 x 1 9/32	1.50	1.041	.856	.61
1546	8	300	7/16 x 1 17/32	1.44	.987	.811	.578
1547	10	300	7/16 x 1 17/32	1.53	1.053	.866	.617
1549	15	300	1/2 x 1 9/16	1.83	1.269	1.044	.744
1570	50	300	7/8 x 1 29/32	3.57	2.49	2.04	1.46
1573	100	300	1 1/8 x 2 5/32	5.37	3.73	3.07	2.18
1575*†	140	300	1 x 3 5/32	8.85	6.10	5.02	3.61
1576*†	150	300	1 1/4 x 2 11/16	9.42	6.50	5.35	3.85
1578*†	200	300	1 1/4 x 3 5/32	9.57	6.60	5.43	3.91
1580	300	300	1 3/8 x 3 11/16	9.33	6.44	5.30	3.81
1582	400	300	1 3/8 x 4 5/32	11.10	7.66	6.30	4.54

POLARIZED SINGLE UNITS (CONT'D)

Sprague No. TVA-	µF	WV DC	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
1599	1	350	5/16 x 2 7/32	$1.32	$0.92	$0.757	$0.539
1600	2	350	3/8 x 2 7/32	1.35	.935	.769	.548
1600.1	3	350	3/8 x 3 1/32	1.35	.942	.774	.552
1601	4	350	3/8 x 1 9/32	1.50	1.041	.856	.61
1602.5	5	350	3/8 x 1 17/32	1.62	1.119	.92	.656
1602.6	6	350	3/8 x 1 17/32	1.62	1.119	.92	.656
1603	8	350	7/16 x 1 17/32	1.53	1.053	.866	.617
1604	10	350	1/2 x 1 9/16	1.83	1.269	1.044	.744
1605	12	350	1/2 x 1 9/16	1.83	1.269	1.044	.744
1607	15	350	1/2 x 1 13/16	2.10	1.462	1.202	.857
1608	20	350	3/4 x 1 21/32	2.28	1.576	1.296	.924
1612	50	350	7/8 x 2 5/32	3.84	2.66	2.19	1.56
1613	60	350	1 5/16 x 2 5/32	3.69	2.57	2.11	1.51
1620	100	350	1 x 2 21/32	4.77	3.32	2.73	1.95
1622*	150	350	1 1/4 x 2 11/16	7.86	5.41	4.50	3.20
1623	160	350	1 x 3 21/32	6.63	4.61	3.79	2.70
1624*	200	350	1 1/4 x 3 5/32	9.75	6.72	5.53	3.98
1627	250	350	1 3/8 x 3 11/16	9.33	6.44	5.30	3.81
1628*	300	350	1 3/8 x 4 5/32	10.80	7.44	6.12	4.41
1640	1	385	3/8 x 2 7/32	1.47	1.011	.831	5.92
1647	3	400	3/8 x 1 17/32	1.62	1.119	.92	.656
1648	4	400	7/16 x 1 9/32	1.38	.954	.784	.559
1649	5	400	7/16 x 1 17/32	1.53	1.053	.866	.617
1650	6	400	1/2 x 1 5/16	1.77	1.23	1.012	.721
1651	8	400	1/2 x 1 9/16	1.83	1.269	1.044	.744
1652	10	400	1/2 x 1 13/16	1.83	1.269	1.044	.744
1658	30	400	1 5/16 x 1 21/32	3.54	2.47	2.03	1.45
1659	40	400	1 5/16 x 1 29/32	3.81	2.65	2.18	1.56
1661	60	400	1 x 2 13/32	3.21	2.226	1.831	1.305
1665	150	400	1 1/4 x 3 5/32	5.31	3.70	3.043	2.168
1666	200	400	1 1/4 x 3 11/16	8.07	5.569	4.626	3.297
1700	1	450	3/8 x 2 7/32	1.35	.935	.769	.548
1701	2	450	3/8 x 1 9/32	1.50	1.041	.856	.61
1701.1	3	450	7/16 x 1 9/32	1.77	1.23	1.012	.721
1702	4	450	7/16 x 1 17/32	1.53	1.053	.866	.617
1703	5	450	1/2 x 1 5/16	1.77	1.23	1.012	.721
1704	8	450	1/2 x 1 13/16	2.10	1.462	1.202	.857
1705	10	450	1/2 x 1 13/16	2.28	1.576	1.296	.924
1706	12	450	3/4 x 1 21/32	2.28	1.576	1.296	.924
1709	20	450	1 3/16 x 2 5/32	3.75	2.61	2.14	1.53
1710	25	450	1 5/16 x 1 29/32	3.93	2.72	2.24	1.60
1711	30	450	1 x 1 29/32	4.02	2.80	2.30	1.64
1712	40	450	1 5/16 x 2 13/32	4.08	2.84	2.34	1.66
1713	50	450	1 1/8 x 2 5/32	5.55	3.85	3.17	2.26
1714	60	450	1 1/8 x 2 5/32	5.73	3.98	3.27	2.33
1716	80	450	1 x 3 21/32	5.40	3.76	3.09	2.20
1718	100	450	1 1/4 x 3 5/32	7.95	5.47	4.55	3.24
1719*	150	450	1 3/8 x 3 11/16	10.74	7.41	6.10	4.39
1719.2	160	450	1 3/8 x 3 11/16	10.11	6.98	5.74	4.13
1720*	200	450	1 3/8 x 4 5/32	11.28	7.79	6.41	4.61
1800	4	475	5/8 x 1 21/32	3.03	2.10	1.73	1.23
1802.1	12	475	3/4 x 1 29/32	2.19	1.525	1.254	.894
1803.1	16	475	7/8 x 1 21/32	3.69	2.57	2.11	1.51
1890	1	500	1/2 x 1 5/32	3.12	2.16	1.78	1.27
1895	3	500	5/8 x 1 13/32	3.63	2.53	2.08	1.48
1901	5	500	3/4 x 1 5/32	3.48	2.42	1.99	1.42
1902	8	500	3/4 x 1 21/32	3.93	2.73	2.24	1.60
1903	10	500	3/4 x 1 21/32	4.05	2.82	2.32	1.65
1904	12	500	7/8 x 1 29/32	3.39	2.352	1.935	1.379
1905	16	500	7/8 x 2 5/32	4.47	3.12	2.56	1.83
1906	20	500	7/8 x 2 5/32	4.53	3.14	2.58	1.84
1907	30	500	1 x 1 29/32	4.80	3.35	2.75	1.96
1908	40	500	1 x 2 13/32	5.40	3.76	3.09	2.20
1960	4	600	13/16 x 2 3/16	7.68	5.29	4.39	3.13
1962	8	600	1 1/16 x 2 7/8	7.50	5.16	4.29	3.06
1963	10	600	1 1/16 x 3 3/16	8.43	5.82	4.83	3.44
1965	16	600	1 1/16 x 4 3/16	9.42	6.50	5.35	3.85
1966	20	600	1 1/16 x 3 7/8	9.90	6.82	5.61	4.04

WE THINK YOU'LL LIKE OUR SERVICE . . .

LET US SERVE YOU!

*1-99, Kleer-Pak; 100 Up Bulk-Pack. 250 Up Bulk-Pack prices on request. *Mounting strap attached. †Single ended with two 8-inch flexible leads.

TYPE TVA ATOM® ELECTROLYTICS CONTINUED ON NEXT PAGE

TYPE TVA ATOM® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

NON-POLARIZED SINGLE UNITS

Sprague No. TVAN-	µF	WV NP	Case Sizes Dia. x Lgth.	Net Each, Lots of* 1-24	25-49	50-99	100-249
095	500	3	⅜ x 1 17/32	$1.56	$1.086	$0.893	$0.636
103.1	500	6	½ x 1 13/16	1.83	1.263	1.039	.74
110	5	10	¼ x 1 7/32	1.20	.821	.675	.481
111	6	10	¼ x 1 7/32	1.20	.821	.675	.481
112	8	10	¼ x 1 7/32	1.29	.887	.73	.52
112.4	10	10	¼ x 2 3/32	1.29	.887	.73	.52
117	50	10	⅜ x 2 3/32	1.44	.996	.819	.584
132.1	500	12	⅝ x 2⅛	2.52	1.748	1.437	1.024
150	4	15	¼ x 1 7/32	1.29	.887	.73	.52
155	10	15	¼ x 2 3/32	1.29	.887	.73	.52
176	2.5	20	¼ x 1 7/32	1.29	.887	.73	.52
200	1	25	¼ x 2 3/32	1.29	.887	.73	.52
202	2	25	¼ x 1 7/32	1.29	.887	.73	.52
203.1	5	25	¼ x 2 3/32	1.29	.887	.73	.52
204.1	10	25	5/16 x 2 3/32	1.32	.905	.745	.531
204.3	16	25	5/16 x 2 7/32	1.32	.905	.745	.531
205.1	25	25	⅜ x 1 23/32	1.44	.996	.819	.584
205.5	35	25	⅜ x 2 7/32	1.50	1.047	.861	.614
206.1	50	25	⅜ x 3 1/32	1.50	1.047	.861	.614
207.1	100	25	⅜ x 1 17/32	1.53	1.068	.878	.626
220	20	30	⅜ x 2 7/32	1.44	.996	.819	.584
301.1	2	50	¼ x 2 3/32	1.29	.887	.73	.52
302.1	3	50	¼ x 2 3/32	1.29	.887	.73	.52
302.5*	4	50	¼ x 2 3/32	1.32	.905	.745	.531
303.1	5	50	5/16 x 2 3/32	1.32	.905	.745	.531
303.4	8	50	5/16 x 3 1/16	1.32	.905	.745	.531
304.1	10	50	5/16 x 2 7/32	1.44	.996	.819	.584
306.1	25	50	⅜ x 1 9/32	1.53	1.062	.873	.622
306.2	30	50	⅜ x 1 9/32	1.53	1.062	.873	.622
308.1	50	50	7/16 x 1 9/32	1.53	1.068	.878	.626
309.2	60	50	7/16 x 1 17/32	1.71	1.182	.972	.693
310.1	100	50	½ x 1 13/16	1.83	1.266	1.042	.742
333	10	100	½ x 1 5/8	3.72	2.58	2.12	1.51
335	20	100	⅝ x 1 21/32	3.90	2.72	2.23	1.59
340	40	100	¾ x 1 21/32	4.29	2.99	2.46	1.75
402.1	4	150	9/16 x 1 21/32	3.69	2.57	2.11	1.51
406.1	10	150	¾ x 1 13/32	3.96	2.76	2.27	1.62
413.1	40	150	¾ x 2⅛	4.53	3.15	2.59	1.85
435.1	2	200	½ x 1 13/32	3.60	2.51	2.07	1.47
436	4	200	1 x 1 29/32	4.95	3.441	2.83	2.017
440	60	200	1 x 2 21/32	6.09	4.23	3.48	2.48
560	1	300	½ x 1 13/32	3.75	2.61	2.14	1.53
602	5	350	¾ x 1 21/32	4.26	2.96	2.44	1.74
604.1	10	350	1 x 1 29/32	4.68	3.26	2.68	1.91
650*	10	400	7/8 x 1 29/32	5.76	4.01	3.30	2.35
652	20	400	1 x 2 5/32	5.58	3.89	3.20	2.28
705.1	10	450	1 x 1 29/32	5.58	3.89	3.20	2.28

DUAL UNITS

No. TVA-	µF at WVDC	Net Each, Lots of* 1-24	25-49	50-99	100-249
2175	1500–1000 at 20	$5.40	$5.40	$5.40	$5.40
2231†	2000– 500 at 30	5.25	5.25	5.25	5.25

*Mounting strap attached. †Kraftboard case construction. *1–99 Kleer-Pak; 100–Up Bulk-Pack.

DUAL UNITS, COMMON NEGATIVE—THREE LEADS

No. TVA-	µF at WVDC	Net Each, Lots of* 1-24	25-49	50-99	100-249
2428*	20– 20 at 150	$5.85	$4.08	$3.35	$2.39
2445*	40– 40 at 150	6.09	4.23	3.48	2.48
2450*	50– 30 at 150	6.45	4.49	3.69	2.63
2453*	50– 50 at 150	5.52	3.86	3.17	2.25
2460*	80– 30 at 150	6.54	4.55	3.74	2.67
2461*	80– 40 at 150	6.93	4.83	3.98	2.83
2462*	80– 50 at 150	6.66	4.64	3.82	2.72
2463*	100– 50 at 150	7.08	4.93	4.05	2.89
2465.8	150– 50 at 150	2.25	2.25	2.25	2.25
2640*†	140– 5 at 350	3.36	3.36	3.36	3.36
2722*	10– 10 at 450	5.79	4.037	3.32	2.366
2730*	20– 20 at 450	5.79	4.037	3.32	2.366
2740*	40– 40 at 450	8.16	5.634	4.681	3.336

TRIPLE UNITS

No. TVA-	Cap., µF	WVDC	Net Each, Lots of* 1-24	25-49	50-99
3423*	40– 30– 20	150–150– 25	$2.43	$2.43	$2.43
3437.6*†	250–120– 50	150–150– 25	3.87	3.87	3.87
3440*	20– 20– 20	150–150–150	2.40	2.40	2.40
3443*	30– 30– 20	150–150–150	2.49	2.49	2.49
3454	60– 30– 10	150–150–150	2.04	2.04	2.04
3460.5†	250– 50– 10	160–160– 25	2.97	2.97	2.97
3485†	40– 20–100	250–250– 50	2.70	2.70	2.70
3559†	100– 60–100	300–300– 50	4.02	4.02	4.02
3567†	60– 60– 60	300–300–300	3.87	3.87	3.87
3605*†	100– 20– 50	350–350– 50	3.81	3.81	3.81
3650†	10– 80– 60	400–250–150	3.24	3.24	3.24
3720*	40– 40– 20	450–450– 25	3.54	3.54	3.54
3740*	40– 20– 20	450–450–450	3.51	3.51	3.51

QUADRUPLE UNITS

No. TVA-	Cap., µF	WVDC	Net Each, Lots of* 1-49	50-99	100-249
4517†	40– 20– 20–100	150–150–150– 25	$2.94	$2.94	$2.94
4580†	150–100– 20–100	300–300–300– 25	5.64	5.64	5.64
4708*†	10– 80– 40– 40	450–300–250–250	4.11	4.11	4.11

*1–99, Kleer-Pak; 100 Up Bulk-Pack. 100 Up also available in Triple and Quadruple units, prices on request. *Mounting strap attached. †Kraft-board case construction.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR

UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY,

JUST USE THE MANUFACTURER'S MODEL NUMBERS.

SPRAGUE MINIATURE ALUMINUM ELECTROLYTIC CAPACITORS

TYPE 501D MINILYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

For entertainment and commercial applications requiring long life, miniature, tubular electrolytics. Designed for use in coupling, decoupling, bypass and filter circuits. Very low equivalent series resistance and leakage current. Supplied with thermoplastic sleeve over aluminum case. **Operating Temperature Range:** −40° C to +85° C. **Capacitance Tolerance:** −10, +50%.

Sprague Number 501D-	Capacitance, µF	Case Size Code	Net Each, Lots of 1-24	25-49	50-99	100-299	300-499
6.3 WVDC, 8 V SURGE							
157F6R3MM	150	C	$0.51	$0.427	$0.329	$0.244	$0.207
477F6R3NP	470	E	.60	.497	.383	.284	.241
687F63NR	680	F	.78	.651	.502	.372	.316
158F6R3PS	1500	H	1.08	.889	.686	.508	.432
228F6R3QS	2200	I	1.50	1.239	.956	.708	.602
478F6R3SV	4700	K	3.27	2.716	2.095	1.552	1.319
688F6R3TV	6800	L	4.29	3.563	2.749	2.036	1.731
109F6R3TW	10000	M	5.01	4.172	3.218	2.384	2.026
159F6R3UX	15000	P	6.78	5.593	4.358	3.228	2.744
10 WVDC, 13 V SURGE							
336F010LL	33	A	$0.42	$0.336	$0.259	$0.192	$0.163
476F010LL	47	A	.42	.336	.259	.192	.163
227F010MN	220	D	.60	.497	.383	.284	.241
337F010NP	330	E	.60	.497	.383	.284	.241
447F010NR	470	F	.69	.567	.437	.324	.275
108F010PR	1000	G	.96	.798	.616	.456	.388
338F010QT	3300	J	2.34	1.946	1.501	1.112	.945
668F010TW	6800	M	4.71	3.913	3.091	2.236	1.901
109F010UW	10000	N	5.49	4.564	3.521	2.608	2.217
16 WVDC, 20 V SURGE							
226F016LL	22	A	$0.42	$0.336	$0.259	$0.192	$0.163
336F016LM	33	B	.42	.35	.27	.20	.17
686F016MM	68	C	.51	.413	.319	.236	.201
107F016MM	100	C	.51	.427	.329	.244	.207
157F016MN	150	D	.60	.497	.383	.284	.241
227F016NP	220	E	.60	.497	.383	.284	.241
337F016NR	330	F	.78	.651	.502	.372	.316
687F016PR	680	G	.78	.651	.502	.372	.316
108F016PS	1000	H	1.50	1.239	.956	.708	.602
158F016QS	1500	I	1.89	1.575	1.215	.90	.765
228F016QT	2200	J	2.16	1.785	1.377	1.02	.867
478F016TV	4700	L	4.71	3.913	3.019	2.236	1.901
668F016UW	6800	N	5.49	4.564	3.521	2.608	2.217
109F016UX	10000	P	7.32	6.022	4.693	3.476	2.955
25 WVDC, 32 V SURGE							
156F025LL	15	A	$0.42	$0.336	$0.259	$0.192	$0.163
226F025LM	22	B	.42	.35	.27	.20	.17
476F025MM	47	C	.51	.413	.319	.236	.201
686F025MN	68	D	.51	.427	.329	.244	.207
107F025MN	100	D	.60	.497	.383	.284	.241
157F025NP	150	E	.60	.497	.383	.284	.241
227F025NR	220	F	.69	.567	.437	.324	.275
477F025PR	470	G	.96	.798	.616	.456	.388
687F025PS	680	H	1.50	1.246	.961	.712	.605
108F025QS	1000	I	1.89	1.575	1.215	.90	.765

Sprague Number 501D-	Capacitance, µF	Case Size Code	Net Each, Lots of 1-24	25-49	50-99	100-299	300-499
25 WVDC, 32 V SURGE (CONT'D.)							
158F025QT	1500	J	$3.27	$2.716	$2.095	$1.552	$1.319
338F025TV	3300	L	4.71	3.913	3.019	2.236	1.901
478F025TW	4700	M	5.49	4.564	3.521	2.608	2.217
688F025UX	6800	P	7.56	6.237	4.86	3.60	3.06
35 WVDC, 44 V SURGE							
685F035LL	6.8	A	$0.42	$0.336	$0.259	$0.192	$0.144
106F035LL	10	A	.42	.336	.259	.192	.144
156F035LM	15	B	.42	.35	.27	.20	.17
336F035MM	33	C	.51	.413	.319	.236	.201
476F035MN	47	D	.51	.427	.329	.244	.207
686F035NP	68	E	.60	.497	.383	.284	.241
107F035NP	100	E	.60	.497	.383	.284	.241
157F035NR	150	F	.78	.651	.502	.372	.316
337F035PR	330	G	.96	.798	.616	.456	.388
477F035PS	470	H	1.50	1.246	.961	.712	.605
687F035QS	680	I	1.89	1.575	1.215	.90	.765
108F035QT	1000	J	2.16	1.785	1.377	1.02	.867
158F035SV	1500	K	3.78	3.15	2.43	1.80	1.53
228F035TV	2200	L	4.56	3.801	2.932	2.172	1.846
338F035TW	3300	M	5.49	4.564	3.521	2.608	2.217
478F035UW	4700	N	7.56	6.237	4.86	3.60	3.06
50 WVDC, 63 V SURGE							
226F050MM	22	C	$0.51	$0.413	$0.319	$0.236	$0.201
336F050MN	33	D	.51	.427	.329	.244	.207
108F050SV	1000	K	4.11	3.423	2.641	1.956	1.663
158F050TW	1500	L	6.27	5.163	4.023	2.98	2.533
228F050TW	2200	M	6.78	5.593	4.358	3.228	2.744
338F050UX	3300	P	8.10	6.667	5.143	3.848	3.271
63 WVDC, 79 V SURGE							
474F063LL	.48	A	$0.42	$0.336	$0.259	$0.192	$0.163
684F063LL	.68	A	.42	.336	.259	.192	.163
105F063LL	1.0	A	.42	.336	.259	.192	.163
155F063LL	1.5	A	.42	.336	.259	.192	.163
225F063LL	2.2	A	.42	.336	.259	.192	.163
335F063LL	3.3	A	.42	.336	.259	.192	.163
475F063LL	4.7	A	.42	.336	.259	.192	.163
685F063LM	6.8	B	.42	.35	.27	.20	.17
106F063MM	10	C	.51	.413	.319	.236	.201
156F063MM	15	C	.51	.413	.319	.236	.201
226F063MN	22	D	.51	.427	.329	.244	.207
336F063NP	33	E	.60	.497	.383	.284	.241
476F063NP	47	E	.60	.497	.383	.284	.241
686F063NR	68	F	.78	.651	.502	.372	.316
107F063NR	100	F	.96	.798	.616	.456	.388
157F063PR	150	G	.96	.798	.616	.456	.388
227F063PR	220	G	1.50	1.241	.961	.712	.605
337F063QS	330	I	1.89	1.575	1.215	.90	.765
477F063QS	470	I	2.34	1.946	1.501	1.112	.945
687F063QT	680	J	3.09	2.569	1.982	1.468	1.248
108F063TV	1000	L	4.71	3.913	3.019	2.236	1.901
158F063TW	1500	M	6.27	5.163	4.023	2.98	2.533
228F063UW	2200	N	7.32	6.022	4.693	3.476	2.955

DIMENSIONS

Case Size Code	Size (Ins.) Dia. x Length	Case Size Code	Size (Ins.) Dia. x Length	Case Size Code	Size (Ins.) Dia. x Length
A	.236 x .472	F	.394 x 1.020	K	.709 x 1.570
B	.236 x .630	G	.512 x 1.020	L	.866 x 1.570
C	.315 x .630	H	.512 x 1.280	M	.866 x 2.050
D	.315 x .787	I	.630 x 1.280	N	1.000 x 2.050
E	.394 x .827	J	.630 x 1.630	P	1.000 x 2.400

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

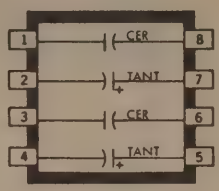
108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

Boston Phone (617) 328-4600

TYPE 936Z AND 939Z MULTI-COMP® DUAL IN-LINE TANTALUM/CERAMIC CAPACITOR ASSEMBLIES



TYPE 936Z
.260" w. x .275" h.
x .850" lg.

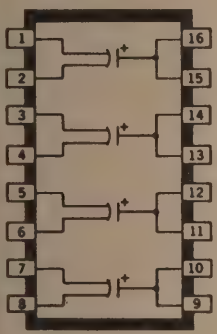


TYPE 939Z
.260" w. x .275" h.
x .450" lg.

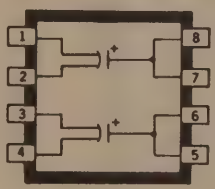
Parallel combination of solid tantalum and ceramic capacitor sections presents impedance typically less than 1 ohm through 30 MHz. Ceramic capacitors are rated at 100 WVDC. Standard capacitance tolerance is ±20%. Operating temperature range is −55° C to +70° C.

Tantalum Caps.			Ceramic Caps.	2 Tantalum Caps. 2 Ceramic Caps. Net Each, Lots of				4 Tantalum Caps. 4 Ceramic Caps. Net Each, Lots of			
Cap., µF	WVDC	Surge VDC	Cap., µF	Sprague Number	1-49	50-99	100-249	Sprague Number	1-49	50-99	100-249
6.8	35	46	.01	939Z685X0035DA	$6.83	$4.35	$3.52	936Z685X0035DA	$14.59	$9.28	$7.51
			.047	939Z685X0035DE	7.00	4.45	3.60	936Z685X0035DE	14.92	9.49	7.68
			.1	939Z685X0035DG	7.16	4.56	3.69	936Z685X0035DG	15.25	9.70	7.85
15	20	26	.01	939Z156X0020DA	6.83	4.35	3.52	936Z156X0020DA	14.59	9.28	7.51
			.047	939Z156X0020DE	7.00	4.45	3.60	936Z156X0020DE	14.92	9.49	7.68
			.1	939Z156X0020DG	7.16	4.56	3.69	936Z156X0020DG	15.25	9.70	7.85
22	15	20	.01	939Z226X0015DA	6.83	4.35	3.52	936Z226X0015DA	14.59	9.28	7.51
			.047	939Z226X0015DE	7.00	4.45	3.60	936Z226X0015DE	14.92	9.49	7.68
			.1	939Z226X0015DG	7.16	4.56	3.69	936Z226X0015DG	15.25	9.70	7.85
33	10	13	.01	939Z336X0015DA	6.83	4.35	3.52	936Z336X0010DA	14.59	9.28	7.51
			.047	939Z336X0015DE	7.00	4.45	3.60	936Z336X0010DE	14.92	9.49	7.68
			.1	939Z336X0015DG	7.16	4.56	3.69	936Z236X0010DG	15.25	9.70	7.85

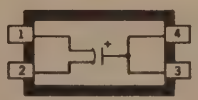
DIP TANTALEX® SOLID-TANTALUM CAPACITORS



TYPE 936D
.260" w. x .275" h.
x .850" lg.



TYPE 939D
.260" w. x .275" h.
x .450" lg.



TYPE 935D
.260" w. x .240" h.
x .200" lg.

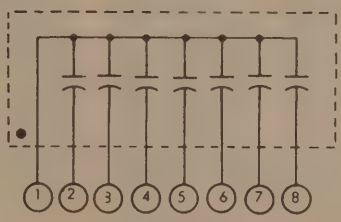
Solid tantalum capacitors housed in DIP cases and compatible with popular microcircuits in similar packages. Standard capacitance tolerance, ±20%. Operating temperature range, −55° C to +85° C.

Cap., µF	WV DC	Sprague Number 1 Cap.	2 Cap.	4 Cap.
6.8	35	935D685X0035SQ	939D685X0035SQ	936D685X0035SQ
15	20	935D156X0020SQ	939D156X0020SQ	936D156X0020SQ
22	15	935D226X0015SQ	939D226X0015SQ	936D226X0015SQ
33	10	935D336X0010SQ	939D336X0010SQ	936D336X0010SQ

Sprague Number	Net Each, Lots of 1-49	50-99	100-249
All 935D types	$3.90*	$3.06†	$1.95§
All 939D types	5.84	3.72	3.01
All 936D types	12.28	7.81	6.33

Lots of: *1-24; †25-49; §50-99.

TYPE 460 MULTI-COMP® SINGLE-IN-LINE PACKAGE MONOLYTHIC® CERAMIC CAPACITOR NETWORKS



.135" w. x .180" h. x .850" lg.

Seven ceramic capacitors in an eight-lead (Pin 1 is common), single-in-line package for use in signal and data processing equipment where repetitive capacitor values and patterns are required. Rated at 100 WVDC over the temperature range of −55° C to +85° C. Standard tolerance is ±20%; ±10% available and can be ordered by changing **X0** in part number to **X9**. Many intermediate values are available in ±10% tolerance.

Sprague Number	Cap., pF	Net Each, Lots of 1-49	50-99	100-249
460CH220X0PD	22	$4.76	$3.42	$2.92
460CH330X0PD	33	4.76	3.42	2.92
460CH470X0PD	47	4.76	3.42	2.92
460CH680X0PD	68	4.76	3.42	2.92
460CH101X0PD	100	4.53	3.26	2.78
460CH151X0PD	150	4.53	3.26	2.78
460CH221X0PD	220	4.53	3.26	2.78
460CH331X0PD	330	4.53	3.26	2.78
460CH471X0PD	470	4.53	3.26	2.78
460CH681X0PD	680	4.53	3.26	2.78
460CH102X0PD	1000	4.53	3.26	2.78
460CH152X0PD	1500	4.53	3.26	2.78
460CH222X0PD	2200	4.53	3.26	2.78
460CH332X0PD	3300	4.53	3.26	2.78
460CH472X0PD	4700	4.53	3.26	2.78
460CH682X0PD	6800	4.53	3.26	2.78
460CH103X0PD	10,000	4.53	3.26	2.78

SPRAGUE Capacitors and Filters

TYPE AB PLASTIC-ENCASED ELECTROLYTICS



- For intermittent duty cycles in motor starting applications.
- Housed in molded phenolic cases for protection against moisture, dirt, grease, etc.
- Dual-blade universal terminals for use with "quick-connect" connectors. Terminals also have notches and eyes for wrapping leads if connections are to be soldered.
- Operating Temperature: −30° C to +65° C.
- Included are two clip-on terminal adapters, equipped with screws, for lead wires without soldering.
- Only a single end cap and clip-type bracket are needed for easy mounting on any modern motor.

125 VOLTS AC, 60 Hz

120,000 starts min. with two ¾-sec starts per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1201	21–25	1 7/16 x 2 3/4	$ 2.19
AB-1202	25–30	1 7/16 x 2 3/4	2.25
AB-1203	30–36	1 7/16 x 2 3/4	2.28
AB-1204	38–46	1 7/16 x 2 3/4	2.37
AB-1205	43–53	1 7/16 x 2 3/4	2.40
AB-1207	53–64	1 7/16 x 2 3/4	2.46
AB-1208	64–77	1 7/16 x 2 3/4	2.52
AB-1209	72–88	1 7/16 x 2 3/4	2.52
AB-1210	88–108	1 7/16 x 2 3/4	2.58
AB-1213	108–130	1 7/16 x 2 3/4	2.67
AB-1216	124–149	1 7/16 x 2 3/4	2.76
AB-1219	130–156	1 7/16 x 2 3/4	2.82
AB-1222	145–175	1 7/16 x 2 3/4	2.88
AB-1225	161–193	1 7/16 x 2 3/4	2.97
AB-1228	189–227	1 7/16 x 2 3/4	3.12
AB-1230	200–240	1 7/16 x 2 3/4	3.21
AB-1231	216–259	1 7/16 x 3 1/8	3.45
AB-1234	233–280	1 7/16 x 3 1/8	3.57
AB-1237	243–292	1 7/16 x 3 1/8	3.63
AB-1240	270–324	1 7/16 x 3 1/8	3.75
AB-1242	324–388	1 13/16 x 3 1/8	4.65
AB-1243	340–408	1 13/16 x 3 1/8	4.71
AB-1246	378–440	1 13/16 x 3 1/8	5.01
AB-1249	400–480	1 13/16 x 3 1/8	5.16
AB-1252	430–516	1 13/16 x 3 1/8	5.34
AB-1255	460–552	1 13/16 x 3 1/8	5.55
AB-1258	540–648	1 13/16 x 4 3/8	6.24
AB-1261	590–708	1 13/16 x 4 3/8	6.48
AB-1262	705–845	2 1/16 x 4 3/8	7.92
AB-1263	800–920	2 1/16 x 4 3/8	8.07
AB-1265	1000–1200	2 5/16 x 4 3/8	10.14

165 VOLTS AC, 60 Hz

60,000 starts min. with one 1-sec start per minute.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-1613	108–130	1 7/16 x 3 3/8	$3.15
AB-1616	124–149	1 7/16 x 3 3/8	3.27
AB-1619	130–156	1 13/16 x 3 3/8	3.81
AB-1622	145–175	1 13/16 x 3 3/8	3.99
AB-1625	161–193	1 13/16 x 3 3/8	4.14
AB-1628	189–227	1 13/16 x 3 3/8	4.41
AB-1631	216–259	1 13/16 x 3 3/8	4.71
AB-1634	233–280	1 13/16 x 4 3/8	5.07
AB-1637	243–292	1 13/16 x 4 3/8	5.13
AB-1640	270–324	1 13/16 x 4 3/8	5.43
AB-1643	340–408	2 1/16 x 4 3/8	6.87
AB-1646	378–440	2 1/16 x 4 3/8	7.14
AB-1649	400–480	2 1/16 x 4 3/8	7.47

250 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-2501	21–25	1 7/16 x 2 3/4	$ 3.00
AB-2502	25–30	1 7/16 x 2 3/4	3.18
AB-2503	30–36	1 7/16 x 3 3/8	3.45
AB-2504	36–43	1 7/16 x 3 3/8	3.63
AB-2505	43–53	1 7/16 x 3 3/8	3.84
AB-2506	47–56	1 7/16 x 3 3/8	4.20
AB-2507	53–64	1 13/16 x 3 3/8	4.53
AB-2508	64–77	1 13/16 x 3 3/8	4.86
AB-2509	72–88	1 13/16 x 3 3/8	4.98
AB-2510	88–108	1 13/16 x 4 3/8	5.88
AB-2512	108–130	1 13/16 x 4 3/8	6.33
AB-2516	124–149	1 13/16 x 4 3/8	6.81
AB-2519	130–156	1 13/16 x 4 3/8	7.32
AB-2522	145–175	2 1/16 x 4 3/8	8.22
AB-2525	161–193	2 1/16 x 4 3/8	8.55
AB-2528	189–227	2 1/16 x 4 3/8	9.42
AB-2531	216–259	2 5/16 x 4 3/8	11.55
AB-2532	233–280	2 5/16 x 4 3/8	12.09
AB-2533	280–333	2 5/16 x 4 3/8	13.44

330 VOLTS AC, 60 Hz

40,000 starts min. with 40 1-sec starts per hour.

Sprague Number	μF Min.-Max.	Dia. x L. Inches	Net Each
AB-3201	21–25	1 7/16 x 3 3/8	$ 3.63
AB-3202	25–30	1 7/16 x 3 3/8	3.84
AB-3203	30–36	1 13/16 x 3 3/8	4.44
AB-3204	36–43	1 13/16 x 3 3/8	4.74
AB-3205	43–53	1 13/16 x 3 3/8	5.01
AB-3207	53–64	1 13/16 x 4 3/8	5.79
AB-3208	64–77	1 13/16 x 4 3/8	6.27
AB-3209	72–88	2 1/16 x 4 3/8	7.50
AB-3210	88–108	2 1/16 x 4 3/8	8.28
AB-3213	108–130	2 5/16 x 4 3/8	10.53
AB-3216	124–149	2 5/16 x 4 3/8	11.40
AB-3219	130–156	2 5/16 x 4 3/8	11.76
AB-3222	145–175	2 5/16 x 4 3/8	12.42
AB-3225	161–193	2 5/16 x 4 3/8	13.23
AB-3226	189–227	2 5/16 x 4 3/8	14.64
AB-3227	216–259	2 5/16 x 4 3/8	16.02

HYPASS® CAPACITORS



- Three-terminal network feed-thru capacitors.
- Bypass VHF currents where ordinary capacitors are ineffective.
- Suppress TVI from short-wave transmitters, diathermy machines, electronic heating apparatus, etc.
- Install leads in series with circuit being filtered and ground the case.
- Eliminate interference caused by line-conducted radiation between neighboring TV sets.

Sprague No.	μF	WVDC	Dia. x L. Inches	Net Each
48P15*	.5	50	1 x 1 13/16	$ 8.76
48P100	.5	50	1 x 1 13/16	13.98
48P10*	.25	200	3/4 x 1 13/16	6.00
80P5*†	.25	200	3/4 x 1 13/16	6.75
48P14*	.5	200	1 x 1 13/16	7.53
48P9*	.1	250‡	11/16 x 1 13/16	7.26
48P6*	.1	400	11/16 x 1 13/16	7.20
80P1*†	.1	400	11/16 x 1 13/16	7.26
80P2*†	.1	600	11/16 x 1 13/16	7.53
48P12*	.25	600	1 x 1 13/16	7.53
48P16*	.5	600	1 x 2 1/4	8.07

*Has female screw terminals. †Bulkhead mounting. ‡WVAC.

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR

UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY,

JUST USE THE MANUFACTURER'S MODEL NUMBERS.

SPRAGUE Orange Drop® Capacitors

TYPE PS ORANGE DROP DIPPED TUBULAR CAPACITORS



Double dipped in bright orange epoxy resin—beats heat and humidity.

Outside foil on all units identified by black striping.

Dual dielectric (polyester film–paper) solidly impregnated with exclusive HCX®—produces rock-hard capacitor section.

Crimped wire leads for correct spacing when mounted on printed wiring boards.

200 VDC

Sprague No. 2PS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
S20	.02	$0.48	$0.265	$0.214	$0.173
S22	.022	.48	.265	.214	.173
S47	.047	.60	.323	.26	.21
S50	.05	.63	.342	.276	.223
P10	.1	.69	.376	.304	.245
P15	.15	.81	.438	.353	.285
P20	.2	.87	.48	.388	.313
P22	.22	.87	.48	.388	.313
P25	.25	1.14	.626	.505	.408
P33	.33	1.14	.626	.505	.408
P47	.47	1.53	.841	.679	.548
P50	.5	1.53	.841	.679	.548

400 VDC

Sprague No. 4PS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
S10	.01	$0.48	$0.265	$0.214	$0.173
S15	.015	.48	.265	.214	.173
S20	.02	.54	.292	.236	.19
S22	.022	.54	.292	.236	.19
S25	.025	.60	.323	.26	.21
S30	.03	.60	.323	.26	.21
S33	.033	.60	.323	.26	.21
S40	.04	.66	.349	.282	.228
S47	.047	.66	.349	.282	.228
S50	.05	.69	.376	.304	.245
S56	.056	.69	.376	.304	.245
S68	.068	.69	.376	.304	.245
S75	.075	.81	.434	.35	.283
P10	.1	.81	.434	.35	.283
P15	.15	.87	.48	.388	.313
P20	.2	1.23	.668	.539	.435
P22	.22	1.23	.668	.539	.435
P25	.25	1.38	.756	.611	.493

600 VDC

Sprague No. 6PS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
D10	.001	$0.48	$0.253	$0.205	$0.165
D12	.0012	.48	.253	.205	.165
D15	.0015	.48	.253	.205	.165
D18	.0018	.48	.253	.205	.165
D20	.002	.48	.253	.205	.165
D22	.0022	.48	.253	.205	.165
D25	.0025	.48	.253	.205	.165
D27	.0027	.48	.253	.205	.165
D30	.003	.48	.253	.205	.165
D33	.0033	.48	.253	.205	.165
D39	.0039	.51	.273	.22	.178
D40	.004	.51	.273	.22	.178
D47	.0047	.51	.273	.22	.178
D50	.005	.51	.273	.22	.178
D56	.0056	.51	.273	.22	.178
D60	.006	.51	.273	.22	.178
D68	.0068	.51	.273	.22	.178
D75	.0075	.54	.30	.242	.195
D80	.008	.54	.30	.242	.195
D82	.0082	.54	.30	.242	.195
S10	.01	.54	.30	.242	.195
S12	.012	.57	.315	.254	.205
S15	.015	.57	.315	.254	.205
S20	.02	.66	.349	.282	.228
S22	.022	.66	.349	.282	.228
S25	.025	.72	.388	.313	.253
S27	.027	.72	.388	.313	.253
S30	.03	.72	.388	.313	.253
S33	.033	.72	.388	.313	.253
S35	.035	.84	.457	.369	.298
S39	.039	.84	.457	.369	.298
S40	.04	.84	.457	.369	.298
S47	.047	.84	.457	.369	.298
S50	.05	.93	.499	.403	.325
S56	.056	.93	.499	.403	.325
S60	.06	.93	.499	.403	.325
S68	.068	.93	.499	.403	.325
S75	.075	.99	.545	.44	.355
S82	.082	.99	.545	.44	.355
P10	.1	.99	.545	.44	.355
P15	.15	1.41	.78	.629	.508
P20	.2	2.01	1.102	.89	.718
P22	.22	2.01	1.102	.89	.718
P25	.25	2.73	1.498	1.209	.975
P33	.33	3.00	1.651	1.333	1.075
P47	.47	3.27	1.805	1.457	1.175

1000 VDC

Sprague No. 1OPS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
D10	.001	$0.60	$0.326	$0.264	$0.213
D15	.0015	.60	.326	.264	.213
D20	.002	.60	.326	.264	.213
D22	.0022	.60	.326	.264	.213
D30	.003	.63	.342	.276	.223
D33	.0033	.63	.342	.276	.223

1000 VDC (CONT'D)

Sprague No. 1OPS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
D40	.004	$0.69	$0.369	$0.298	$0.24
D47	.0047	.69	.369	.298	.24
D50	.005	.72	.396	.319	.258
D68	.0068	.72	.396	.319	.258
S10	.01	.78	.43	.347	.28
S15	.015	.87	.472	.381	.308
S22	.022	.93	.515	.415	.335
S33	.033	1.11	.607	.49	.395
S39	.039	1.23	.668	.539	.435
S47	.047	1.23	.668	.539	.435
S56	.056	1.38	.756	.611	.493
S68	.068	1.38	.756	.611	.493
S82	.082	1.83	1.01	.815	.658
P10	.1	1.83	1.01	.815	.658

1600 VDC

Sprague No. 16PS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
D10	.001	$0.99	$0.534	$0.431	$0.348
D15	.0015	.99	.534	.431	.348
D20	.002	.99	.534	.431	.348
D22	.0022	.99	.534	.431	.348
D30	.003	.99	.534	.431	.348
D33	.0033	.99	.534	.431	.348
D39	.0039	.99	.534	.431	.348
D40	.004	.99	.534	.431	.348
D47	.0047	.99	.534	.431	.348
D50	.005	1.14	.614	.496	.40
D60	.006	1.14	.614	.496	.40
D68	.0068	1.14	.614	.496	.40
D70	.007	1.17	.645	.521	.42
D75	.0075	1.17	.645	.521	.42
D80	.008	1.17	.645	.521	.42
S10	.01	1.17	.645	.521	.42
S15	.015	1.53	.833	.673	.543
S18	.018	1.77	.964	.778	.628
S20	.02	1.77	.964	.778	.628
S22	.022	1.77	.964	.778	.628
S30	.03	1.86	1.018	.822	.663
S33	.033	1.86	1.018	.822	.663
S40	.04	2.13	1.175	.949	.765
S47	.047	2.13	1.175	.949	.765
S50	.05	2.13	1.175	.949	.765

2000 VDC

Sprague No. 2OPS-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
D10	.001	$0.99	$0.534	$0.431	$0.348
D15	.0015	.99	.534	.431	.348
D22	.0022	.99	.534	.431	.348
D33	.0033	1.14	.614	.496	.40
D47	.0047	1.14	.614	.496	.40
D56	.0056	1.17	.645	.521	.42
D68	.0068	1.17	.645	.521	.42
D82	.0082	1.35	.741	.598	.483
S27	.027	3.09	1.705	1.376	1.11

100–249, bulk-pack; other quantities, Kleer-Pak. 250 Up bulk-pack available on request.

TYPE 225P FILMITE® "E" ORANGE DROP CAPACITORS

Designed for PC board use with radial leads. Similar in appearance to PS Series, above. Used in TV sets, radios and commercial equipment. Sections are wound from polyester film and thin gauge foil; wax-free conformal epoxy coating protects against moisture. For operation up to 85° C. Tolerance, ±10%.

100 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
0291WD3	.001	$.364	$0.159	$0.146	$0.137
2291WD3	.0012	.364	.159	.146	.137
5291WD3	.0015	.364	.159	.146	.137
8291WD3	.0018	.364	.159	.146	.137
2291WD3	.0022	.368	.161	.147	.138
7291WD3	.0027	.368	.161	.147	.138
3291WD3	.0033	.368	.161	.147	.138
9291WD3	.0039	.368	.161	.147	.138
7291WD3	.0047	.368	.161	.147	.138
6291WD3	.0056	.372	.163	.149	.14
8291WD3	.0068	.372	.163	.149	.14
2291WD3	.0082	.372	.163	.149	.14
0391WD3	.01	.364	.159	.146	.137
2391WD3	.012	.364	.159	.146	.137
5391WD3	.015	.364	.159	.146	.137
8391WD3	.018	.364	.159	.146	.137
2391WD3	.022	.364	.159	.146	.137
7391WD3	.027	.364	.159	.146	.137
3391WD3	.033	.364	.159	.146	.137
9391WD3	.039	.404	.177	.162	.152
7391WD3	.047	.404	.177	.162	.152
6391WD3	.056	.424	.186	.17	.159
8391WD3	.068	.424	.186	.17	.159
2391WD3	.082	.424	.186	.17	.159
0491WD3	.1	.424	.186	.17	.159
2491XD3	.12	.572	.25	.229	.215
5491XD3	.15	.572	.25	.229	.215

100 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
18491XD3	.18	$.664	$0.291	$0.266	$0.249
22491XD3	.22	.664	.291	.266	.249
27491XD3	.27	.808	.354	.323	.303
33491XD3	.33	.808	.354	.323	.303
39491XD3	.39	1.284	.562	.514	.482
47491XD3	.47	1.284	.562	.514	.482
56491YD3	.56	1.576	.69	.63	.591
68491YD3	.68	1.576	.69	.63	.591
82491YD3	.82	1.956	.856	.782	.734
10591YD3	1.0	1.956	.856	.782	.734

200 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
10292XD3	.001	$.428	$0.187	$0.171	$0.161
15292XD3	.0015	.428	.187	.171	.161
22292XD3	.0022	.428	.187	.171	.161
33292XD3	.0033	.428	.187	.171	.161
47292XD3	.0047	.428	.187	.171	.161
68292XD3	.0068	.428	.187	.171	.161
10392XD3	.01	.428	.187	.171	.161
15392XD3	.015	.48	.21	.192	.18
22392XD3	.022	.488	.214	.195	.183
33392XD3	.033	.528	.231	.211	.198
47392XD3	.047	.528	.231	.211	.198

200 VDC (CONT'D)

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
68392XD3	.068	$5.28	$0.231	$0.211	$0.198
10492XD3	.1	.528	.231	.211	.198
15492XD3	.15	.572	.25	.229	.215
22492XD3	.22	.672	.294	.269	.252
33492YD3	.33	.812	.355	.325	.305
47492YD3	.47	1.304	.571	.522	.489
68492YD3	.68	1.832	.802	.733	.687

400 VDC

Sprague No. 225P-	µF	Net Each, Lots of 1-24	25-49	50-99	100-249*
10294XD3	.001	$.428	$0.187	$0.171	$0.161
15294XD3	.0015	.428	.187	.171	.161
22294XD3	.0022	.428	.187	.171	.161
33294XD3	.0033	.428	.187	.171	.161
47294XD3	.0047	.428	.187	.171	.161
68294XD3	.0068	.428	.187	.171	.161
10394XD3	.01	.428	.187	.171	.161
15394XD3	.015	.452	.198	.181	.17
22394XD3	.022	.456	.20	.182	.171
33394XD3	.033	.528	.231	.211	.198
47394XD3	.047	.528	.231	.211	.198
68394XD3	.068	.572	.25	.229	.215
10494XD3	.1	.664	.291	.266	.249
15494YD3	.15	.812	.355	.325	.305
22494YD3	.22	1.304	.571	.522	.489
33494YD3	.33	1.832	.802	.733	.687
47494YD3	.47	3.548	1.552	1.419	1.331

*When ordering, include final suffix **XD3** (e.g., 225P1249R75**XD3**). *1–24, 25 Up supplied in Kleer-Pak; all others, bulk-pack. Write for 250 Up bulk-pack prices

192P PACER® FILMITE® "E" CAPACITORS



Extended foil film sections are terminated in end caps with wire leads, to assure the best possible non-inductive section. Protected by heat shrinkable plastic sleeve or epoxy coating. Designed for operation to 85° C. Tolerance, ±10%.

80 WVDC

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P2229R8	.0022	.138 x 5/16	$0.51	$0.304	$0.236	$0.203
192P2729R8	.0027	.138 x 5/16	.51	.304	.236	.203
192P3329R8	.0033	.138 x 5/16	.51	.304	.236	.203
192P3929R8	.0039	.138 x 5/16	.51	.304	.236	.203
192P4729R8	.0047	.138 x 5/16	.51	.304	.236	.203
192P5629R8	.0056	.170 x 3/8	.51	.304	.236	.203
192P6829R8	.0068	.170 x 3/8	.51	.304	.236	.203
192P8229R8	.0082	.170 x 3/8	.51	.304	.236	.203
192P1039R8	.01	.170 x 3/8	.48	.288	.224	.192
192P1239R8	.012	.170 x 7/16	.51	.306	.238	.204
192P1539R8	.015	.170 x 7/16	.54	.331	.257	.221
192P1839R8	.018	.170 x 1/2	.54	.335	.261	.224
192P2239R8	.022	.170 x 1/2	.57	.34	.264	.227
192P2739R8	.027	.204 x 7/16	.57	.344	.268	.23
192P3339R8	.033	.204 x 7/16	.57	.349	.271	.233
192P3939R8	.039	.204 x 9/16	.57	.358	.278	.239
192P4739R8	.047	.204 x 9/16	.60	.367	.285	.245
192P5639R8	.056	.225 x 9/16	.60	.376	.292	.251
192P6839R8	.068	.225 x 9/16	.66	.396	.308	.264
192P8239R8	.082	.290 x 1/2	.66	.414	.322	.276
192P1049R8	.1	.290 x 1/2	.69	.423	.329	.282
192P1249R8	.12	.290 x 5/8	.81	.502	.39	.335
192P1549R8	.15	.290 x 5/8	.87	.536	.417	.357
192P1849R8	.18	.318 x 5/8	.96	.59	.459	.393
192P2249R8	.22	.318 x 5/8	1.05	.648	.504	.432
192P2749R8	.27	.318 x 7/8	1.11	.695	.541	.464
192P3349R8	.33	.318 x 7/8	1.20	.734	.571	.489
192P3949R8	.39	.318 x 1 3/16	1.26	.774	.602	.516

200 WVDC

192P10192	.0001	.138 x 5/16	$0.48	$0.299	$0.233	$0.20
192P12192	.00012	.138 x 5/16	.48	.299	.233	.20
192P15192	.00015	.138 x 5/16	.48	.299	.233	.20
192P18192	.00018	.138 x 5/16	.48	.299	.233	.20
192P22192	.00022	.138 x 5/16	.48	.299	.233	.20
192P27192	.00027	.138 x 5/16	.48	.299	.233	.20
192P33192	.00033	.138 x 5/16	.48	.299	.233	.20
192P39192	.00039	.138 x 5/16	.48	.299	.233	.20
192P47192	.00047	.138 x 5/16	.48	.299	.233	.20
192P56192	.00056	.138 x 5/16	.45	.275	.214	.183
192P68192	.00068	.138 x 5/16	.45	.275	.214	.183
192P82192	.00082	.138 x 5/16	.45	.275	.214	.183
192P10292	.001	.138 x 5/16	.39	.236	.184	.158
192P12292	.0012	.138 x 5/16	.39	.232	.18	.155
192P15292	.0015	.138 x 5/16	.39	.236	.184	.158
192P18292	.0018	.170 x 5/16	.39	.236	.184	.158

200 WVDC (CONTINUED)

Sprague No.	μF	Dia. x L. Inches	Net Each, Lots of* 1-24	25-49	50-99	100-249
192P22292	.0022	.170 x 5/16	$0.39	$0.236	$0.184	$0.158
192P27292	.0027	.170 x 5/16	.39	.236	.184	.158
192P33292	.0033	.170 x 5/16	.39	.236	.184	.158
192P39292	.0039	.170 x 7/16	.39	.241	.187	.161
192P47292	.0047	.170 x 7/16	.39	.243	.189	.162
192P56292	.0056	.170 x 7/16	.39	.245	.191	.164
192P68292	.0068	.170 x 7/16	.39	.245	.191	.164
192P82292	.0082	.170 x 1/2	.42	.259	.201	.173
192P10392	.01	.170 x 1/2	.45	.272	.212	.182
192P12392	.012	.204 x 7/16	.45	.277	.215	.185
192P15392	.015	.204 x 7/16	.45	.279	.217	.186
192P18392	.018	.204 x 9/16	.48	.284	.221	.189
192P22392	.022	.204 x 9/16	.48	.288	.224	.192
192P27392	.027	.225 x 9/16	.51	.306	.238	.204
192P33392	.033	.225 x 9/16	.54	.324	.252	.216
192P39392	.039	.290 x 1/2	.57	.344	.268	.23
192P47392	.047	.290 x 1/2	.60	.36	.28	.24
192P56392	.056	.290 x 5/8	.63	.378	.294	.252
192P68392	.068	.290 x 5/8	.66	.401	.312	.267
192P82392	.082	.318 x 5/8	.69	.421	.327	.281
192P10492	.1	.318 x 5/8	.72	.441	.343	.294
192P12492	.12	.318 x 7/8	.75	.461	.359	.308
192P15492	.15	.318 x 7/8	.84	.527	.41	.351
192P18492	.18	.318 x 1 3/16	.90	.558	.434	.372
192P22492	.22	.318 x 1 3/16	1.02	.621	.483	.414

400 WVDC

192P47194	.00047	.170 x 3/8	$0.51	$0.313	$0.243	$0.209
192P56194	.00056	.170 x 3/8	.51	.313	.243	.209
192P68194	.00068	.170 x 3/8	.48	.302	.235	.201
192P82194	.00082	.170 x 3/8	.54	.324	.252	.216
192P10294	.001	.170 x 3/8	.51	.315	.245	.21
192P12294	.0012	.170 x 3/8	.51	.315	.245	.21
192P15294	.0015	.170 x 3/8	.51	.315	.245	.21
192P18294	.0018	.170 x 7/16	.51	.32	.249	.213
192P22294	.0022	.170 x 7/16	.51	.32	.249	.213
192P27294	.0027	.204 x 7/16	.54	.329	.256	.219
192P33294	.0033	.204 x 7/16	.54	.329	.256	.219
192P39294	.0039	.204 x 7/16	.54	.329	.256	.219
192P47294	.0047	.204 x 7/16	.54	.329	.256	.219
192P56294	.0056	.225 x 9/16	.54	.331	.257	.221
192P68294	.0068	.225 x 9/16	.54	.331	.257	.221
192P82294	.0082	.225 x 9/16	.54	.331	.257	.221
192P10394	.01	.225 x 9/16	.54	.331	.257	.221
192P12394	.012	.290 x 1/2	.60	.369	.287	.246
192P15394	.015	.290 x 1/2	.66	.401	.312	.267
192P18394	.018	.290 x 5/8	.66	.401	.312	.267
192P22394	.022	.290 x 5/8	.66	.414	.322	.276
192P27394	.027	.318 x 5/8	.72	.434	.338	.29
192P33394	.033	.318 x 5/8	.72	.448	.348	.299
192P39394	.039	.318 x 7/8	.81	.495	.385	.33
192P47394	.047	.318 x 7/8	.84	.518	.403	.345
192P56394	.056	.318 x 1 3/16	.84	.527	.41	.351
192P68394	.068	.318 x 1 3/16	.87	.542	.422	.362

*Quantities of 1–24 supplied in Kleer-Pak; larger quantities in bulk pack. Prices on 250–499 and 500–999 quantities available on request.

TYPE 260P METALLIZED FILMITE® "K" POLYCARBONATE-FILM CAPACITORS



Metallized Filmite "K" polycarbonate-film capacitors in hermetically sealed tubular metal cases. Designed for applications such as low-frequency tuned circuits, analog computer reference and precision timing and integrating circuits. Capacitor sections are of non-inductive construction. Will operate at full rated VDC over temp. range of −55° C to +105° C. With insulating sleeve. **Rated:** 200 WVDC. **Tolerance:** ±5%.

Sprague Number	Cap., μF	Size, In. Dia. x L.	Net Each, Lots of 1-9	10-24	25-49	50-99
260P10352S4	.01	.175 x 3/4	$7.72	$6.18	$3.86	$3.09
260P15352S4	.015	.195 x 3/4	7.78	6.22	3.89	3.11
260P22352S4	.022	.235 x 3/4	7.84	6.27	3.92	3.14
260P33352S4	.033	.235 x 3/4	7.84	6.27	3.92	3.14
260P47352S4	.047	.312 x 7/8	7.96	6.37	3.98	3.18
260P68352S4	.068	.312 x 7/8	7.96	6.37	3.98	3.18
260P10452S4	.1	.312 x 7/8	7.96	6.37	3.98	3.18
260P15452S4	.15	.312 x 1 1/4	8.44	6.75	4.22	3.38
260P22452S4	.22	.400 x 1 1/4	8.62	6.90	4.31	3.45
260P33452S4	.33	.400 x 1 1/4	9.22	7.38	4.61	3.69

Sprague Number	Cap., μF	Size, In. Dia. x L.	Net Each, Lots of 1-9	10-24	25-49	50-99
260P47452S4	.47	.400 x 1 1/2	$ 9.82	$ 7.86	$ 4.91	$ 3.93
260P68452S4	.68	.562 x 1 1/8	10.88	8.71	5.44	4.35
260P10552S4	1.0	.562 x 1 1/2	14.18	11.35	7.09	5.67
260P20552S4	2.0	.670 x 1 5/8	18.13	14.50	9.07	7.25
260P30552S4	3.0	.750 x 1 7/8	20.53	16.42	10.27	8.21
260P40552S4	4.0	.750 x 2 1/8	22.93	18.34	11.47	9.17
260P50552S4	5.0	.750 x 2 3/8	25.09	20.07	12.55	10.04
260P70552S4	7.0	1.000 x 1 7/8	29.72	23.78	14.86	11.89
260P80552S4	8.0	1.000 x 2 1/8	32.24	25.80	16.12	12.90
260P10652S4	10.0	1.000 x 2 3/8	38.18	30.55	19.09	15.27

TYPE 193D DOMINO® MOLDED SOLID ELECTROLYTE TANTALEX® CAPACITORS

Fully molded construction. Epoxy case provides mechanical protection during handling and mounting as well as excellent stability in severe operating and storage environments. Leadless design minimizes inductance and saves space. Exposed terminal pads on bottom of capacitor can be attached to substrates or circuit board by any conventional method. Capacitance tolerance is ±10%. Operating temperature range is −55° C to +85° C; this may be extended to +125° C at ⅔ of rated working voltage. The catalog numbers listed in the table are preferred values and have flush solderable pads. Non-preferred values and units with extended solderable pads are available in minimum quantities of 100 pieces per value on a non-cancellable, non-returnable basis.

Sprague Number 193D-	Cap., μF	WV DC	Surge VDC	Net Each, Lots of 1-24	25-49	50-99	100-499	500-999
107X9003E2	100	3	4	$3.33	$2.34	$1.68	$1.35	$1.02
335X9006B2	3.3	6	8	1.20	.84	.60	.48	.36
336X9006D2	33	6	8	1.97	1.38	.99	.80	.60
686X9006E2	68	6	8	3.33	2.34	1.68	1.35	1.02
105X9010A2	1.0	10	13	1.10	.77	.55	.44	.33
225X9010B2	2.2	10	13	1.20	.84	.60	.48	.36
685X9010C2	6.8	10	13	1.75	1.23	.88	.71	.54
476X9010E2	47	10	13	3.33	2.34	1.68	1.35	1.02
475X9015C2	4.7	15	20	1.75	1.23	.88	.71	.54
106X9015D2	10	15	20	1.97	1.38	.99	.80	.60
474X9020A2	.47	20	26	1.10	.77	.55	.44	.33
105X9020B2	1.0	20	26	1.20	.84	.60	.48	.36
335X9020C2	3.3	20	26	1.75	1.23	.88	.71	.54
685X9020D2	6.8	20	26	1.97	1.38	.99	.80	.60
226X9020E2	22	20	26	3.33	2.34	1.68	1.35	1.02
104X9035A2	.1	35	46	1.10	.77	.55	.44	.33
224X9035A2	.22	35	46	1.10	.77	.55	.44	.33
155X9035C2	1.5	35	46	1.75	1.23	.88	.71	.54
395X9035D2	3.9	35	46	1.97	1.38	.99	.80	.60
106X9035E2	10	35	46	3.33	2.34	1.68	1.35	1.02

SPRAGUE Electrolytic Capacitors

TYPE 39D POWERLYTIC® TUBULAR ELECTROLYTIC CAPACITORS

Type 39D electrolytics supplement the original type 36D Powerlytics by offering lower capacitance values in a small case size. Ideal for applications requiring the greatest possible capacitance for a given compact case, such as transistorized apparatus. All have end seals of an improved molded phenolic, an outer insulation of flexible plastic, and a pressure-sensitive safety vent. Welds at all critical anode and cathode terminals eliminate riveted or pressure connections, assuring freedom from open circuits even during operation in the microvolt or millivolt signal range. Operating temperature, up to +85° C.



Sprague Number	Cap., µF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D407G003EE4	400	3	A	$2.25	$1.12	$0.98	$0.73
39D907G003EJ4	900	3	B	2.31	1.16	1.01	.75
39D138G003EL4	1,300	3	C	2.36	1.18	1.03	.77
39D148G003GE4	1,400	3	G	2.52	1.26	1.10	.82
39D188G003FJ4	1,800	3	D	2.52	1.26	1.10	.82
39D218G003HE4	2,100	3	K	2.73	1.37	1.20	.89
39D278G003FL4	2,700	3	E	2.76	1.38	1.21	.90
39D298G003GJ4	2,900	3	H	2.78	1.39	1.22	.90
39D308G003JE4	3,000	3	P	2.79	1.39	1.22	.91
39D368G003FP4	3,600	3	F	2.79	1.39	1.22	.91
39D428G003HJ4	4,200	3	L	2.91	1.46	1.27	.95
39D438G003GL4	4,300	3	I	2.92	1.46	1.28	.95
39D578G003GP4	5,700	3	J	3.05	1.52	1.33	.99
39D608G003JJ4	6,000	3	Q	3.06	1.53	1.34	1.00
39D858G003HP4	8,500	3	N	3.31	1.65	1.45	1.08
39D908G003JL4	9,000	3	R	3.45	1.72	1.51	1.12
39D109G003HS4	10,000	3	O	3.69	1.85	1.62	1.20
39D129G003JP4	12,000	3	S	3.76	1.88	1.64	1.22
39D159G003JS4	15,000	3	T	4.27	2.13	1.87	1.39
39D189G003JT4	18,000	3	U	4.66	2.33	2.04	1.51
39D307G006EE4	300	6	A	2.25	1.12	.98	.73
39D607G006EJ4	600	6	B	2.31	1.16	1.01	.75
39D907G006EL4	900	6	C	2.36	1.18	1.03	.77
39D108G006GE4	1,000	6	G	2.52	1.26	1.10	.82
39D128G006FJ4	1,200	6	D	2.52	1.26	1.10	.82
39D158G006HE4	1,500	6	K	2.73	1.37	1.20	.89
39D198G006FL4	1,900	6	E	2.76	1.38	1.21	.90
39D208G006GJ4	2,000	6	H	2.78	1.39	1.22	.90
39D218G006JE4	2,100	6	P	2.79	1.39	1.22	.91
39D258G006FP4	2,500	6	F	2.79	1.39	1.22	.91
39D308G006GL4	3,000	6	I	2.92	1.46	1.28	.95
39D408G006GP4	4,000	6	J	3.05	1.52	1.33	.99
39D428G006JJ4	4,200	6	Q	3.06	1.53	1.34	1.00
39D608G006HP4	6,000	6	N	3.31	1.65	1.45	1.08
39D638G006JL4	6,300	6	R	3.45	1.72	1.51	1.12
39D758G006HS4	7,500	6	O	3.69	1.85	1.62	1.20
39D858G006JP4	8,500	6	S	3.76	1.88	1.64	1.22
39D109G006JS4	10,000	6	T	4.27	2.13	1.87	1.39
39D129G006JT4	12,000	6	U	4.66	2.33	2.04	1.51
39D257G010EE4	250	10	A	2.25	1.12	.98	.73
39D507G010EJ4	500	10	B	2.31	1.16	1.01	.75
39D807G010EL4	800	10	C	2.36	1.18	1.03	.77
39D857G010GE4	850	10	G	2.52	1.26	1.10	.82
39D108G010FJ4	1,000	10	D	2.52	1.26	1.10	.82
39D128G010HE4	1,200	10	K	2.73	1.37	1.20	.89
39D168G010FL4	1,600	10	E	2.76	1.38	1.21	.90
39D178G010GJ4	1,700	10	H	2.78	1.39	1.22	.90
39D218G010FP4	2,100	10	F	2.79	1.39	1.22	.91
39D258G010GL4	2,500	10	I	2.92	1.46	1.28	.95
39D348G010GP4	3,400	10	J	3.05	1.52	1.33	.99
39D358G010JJ4	3,500	10	Q	3.06	1.53	1.34	1.00
39D508G010HP4	5,000	10	N	3.31	1.65	1.45	1.08
39D528G010JL4	5,200	10	R	3.45	1.72	1.51	1.12
39D638G010HS4	6,300	10	O	3.69	1.85	1.62	1.20
39D718G010JP4	7,100	10	S	3.76	1.88	1.64	1.22
39D888G010JS4	8,800	10	T	4.27	2.13	1.87	1.39
39D109G010JT4	10,000	10	U	4.66	2.33	2.04	1.51
39D207G015EE4	200	15	A	2.25	1.12	.98	.73
39D407G015EJ4	400	15	B	2.31	1.16	1.01	.75
39D607G015EL4	600	15	C	2.36	1.18	1.03	.77
39D807G015FJ4	800	15	D	2.52	1.26	1.10	.82
39D957G015HE4	950	15	K	2.73	1.37	1.20	.89
39D128G015FL4	1,200	15	E	2.76	1.38	1.21	.90
39D138G015GJ4	1,300	15	H	2.78	1.39	1.22	.90
39D168G015FP4	1,600	15	F	2.79	1.39	1.22	.91
39D198G015GL4	1,900	15	I	2.92	1.46	1.28	.95
39D258G015GP4	2,500	15	J	3.05	1.52	1.33	.99
39D268G015JJ4	2,600	15	Q	3.06	1.53	1.34	1.00
39D388G015HP4	3,800	15	N	3.31	1.65	1.45	1.08
39D408G015JL4	4,000	15	R	3.45	1.72	1.51	1.12
39D478G015HS4	4,700	15	O	3.69	1.85	1.62	1.20
39D538G015JP4	5,300	15	S	3.76	1.88	1.64	1.22
39D668G015JS4	6,600	15	T	4.27	2.13	1.87	1.39
39D808G015JT4	8,000	15	U	4.66	2.33	2.04	1.51
39D107G025EE4	100	25	A	2.25	1.12	.98	.73
39D207G025EJ4	200	25	B	2.31	1.16	1.01	.75
39D357G025EL4	350	25	C	2.36	1.18	1.03	.77
39D457G025FJ4	450	25	D	2.52	1.26	1.10	.82
39D507G025HE4	500	25	K	2.73	1.37	1.20	.89
39D707G025FL4	700	25	E	2.76	1.38	1.21	.90
39D757G025GJ4	750	25	H	2.78	1.39	1.22	.90
39D807G025JE4	800	25	P	2.79	1.39	1.22	.91
39D957G025FP4	950	25	F	2.79	1.39	1.22	.91
39D108G025GL4	1,000	25	I	2.92	1.46	1.28	.95
39D118G025HJ4	1,100	25	L	2.91	1.46	1.27	.95
39D158G025GP4	1,500	25	J	3.05	1.52	1.33	.99
39D168G025JJ4	1,600	25	Q	3.06	1.53	1.34	1.00
39D178G025HL4	1,700	25	M	3.17	1.59	1.39	1.03
39D228G025HP4	2,200	25	N	3.31	1.65	1.45	1.08
39D248G025JL4	2,400	25	R	3.45	1.72	1.51	1.12
39D288G025HS4	2,800	25	O	3.69	1.85	1.62	1.20
39D328G025JP4	3,200	25	S	3.76	1.88	1.64	1.22
39D408G025JS4	4,000	25	T	4.27	2.13	1.87	1.39
39D478G025JT4	4,700	25	U	4.66	2.33	2.04	1.51
39D756G030EE4	75	30	A	2.25	1.12	.98	.73
39D157G030EJ4	150	30	B	2.31	1.16	1.01	.75
39D257G030EL4	250	30	C	2.36	1.18	1.03	.77
39D357G030FJ4	350	30	D	2.52	1.26	1.10	.82
39D407G030HE4	400	30	K	2.73	1.37	1.20	.89
39D507G030FL4	500	30	E	2.76	1.38	1.21	.90
39D607G030JE4	600	30	P	2.79	1.39	1.22	.91
39D707G030FP4	700	30	F	2.79	1.39	1.22	.91
39D857G030GL4	850	30	I	2.92	1.46	1.28	.95
39D118G030GP4	1,100	30	J	3.05	1.52	1.33	.99
39D128G030HL4	1,200	30	M	3.17	1.59	1.39	1.03
39D178G030HP4	1,700	30	N	3.31	1.65	1.45	1.08
39D188G030JL4	1,800	30	R	3.45	1.72	1.51	1.12
39D218G030HS4	2,100	30	O	3.69	1.85	1.62	1.20
39D248G030JP4	2,400	30	S	3.76	1.88	1.64	1.22
39D308G030JS4	3,000	30	T	4.27	2.13	1.87	1.39
39D368G030JT4	3,600	30	U	4.66	2.33	2.04	1.51
39D756G040EE4	75	40	A	2.25	1.12	.98	.73
39D157G040EJ4	150	40	B	2.31	1.16	1.01	.75
39D207G040EL4	200	40	C	2.36	1.18	1.03	.77
39D257G040GE4	250	40	G	2.52	1.26	1.10	.82
39D307G040FJ4	300	40	D	2.52	1.26	1.10	.82
39D357G040HE4	350	40	K	2.73	1.37	1.20	.89
39D457G040FL4	450	40	E	2.76	1.38	1.21	.90
39D507G040GJ4	500	40	H	2.78	1.39	1.22	.90
39D607G040FP4	600	40	F	2.79	1.39	1.22	.91
39D757G040GL4	750	40	I	2.92	1.46	1.28	.95
39D108G040GP4	1,000	40	J	3.05	1.52	1.33	.99
39D118G040HL4	1,100	40	M	3.17	1.59	1.39	1.03
39D158G040HP4	1,500	40	N	3.31	1.65	1.45	1.08
39D168G040JL4	1,600	40	R	3.45	1.72	1.51	1.12
39D198G040HS4	1,900	40	O	3.69	1.85	1.62	1.20
39D218G040JP4	2,100	40	S	3.76	1.88	1.64	1.22
39D268G040JS4	2,600	40	T	4.27	2.13	1.87	1.39
39D328G040JT4	3,200	40	U	4.66	2.33	2.04	1.51
39D506G050EE4	50	50	A	2.25	1.12	.98	.73
39D107G050EJ4	100	50	B	2.31	1.16	1.01	.75
39D157G050EL4	150	50	C	2.36	1.18	1.03	.77
39D207G050FJ4	200	50	D	2.52	1.26	1.10	.82
39D257G050HE4	250	50	K	2.73	1.37	1.20	.89
39D357G050FL4	350	50	E	2.76	1.38	1.21	.90
39D457G050FP4	450	50	F	2.79	1.39	1.22	.91
39D507G050GL4	500	50	I	2.92	1.46	1.28	.95
39D707G050GP4	700	50	J	3.05	1.52	1.33	.99
39D757G050JJ4	750	50	Q	3.06	1.53	1.34	1.00
39D807G050HL4	800	50	M	3.17	1.59	1.39	1.03
39D138G050HS4	1,300	50	O	3.69	1.85	1.62	1.20
39D158G050JP4	1,500	50	S	3.76	1.88	1.64	1.22
39D198G050JS4	1,900	50	T	4.27	2.13	1.87	1.39
39D238G050JT4	2,300	50	U	4.66	2.33	2.04	1.51
39D306G075EE4	30	75	A	2.25	1.12	.98	.73
39D756G075EJ4	75	75	B	2.31	1.16	1.01	.75
39D107G075EL4	100	75	C	2.36	1.18	1.03	.77
39D157G075FJ4	150	75	D	2.52	1.26	1.10	.82
39D207G075FL4	200	75	E	2.76	1.38	1.21	.90
39D257G075JE4	250	75	P	2.79	1.39	1.22	.91
39D307G075FP4	300	75	F	2.79	1.39	1.22	.91
39D357G075GL4	350	75	I	2.92	1.46	1.28	.95
39D457G075GP4	450	75	J	3.05	1.52	1.33	.99
39D507G075HL4	500	75	M	3.17	1.59	1.39	1.03
39D707G075HP4	700	75	N	3.31	1.65	1.45	1.08
39D757G075JL4	750	75	R	3.45	1.72	1.51	1.12
39D857G075HS4	850	75	O	3.69	1.85	1.62	1.20
39D108G075JP4	1,000	75	S	3.76	1.88	1.64	1.22
39D128G075JS4	1,200	75	T	4.27	2.13	1.87	1.39
39D158G075JT4	1,500	75	U	4.66	2.33	2.04	1.51
39D156F100EE4	15	100	A	2.25	1.12	.98	.73
39D356F100EJ4	35	100	B	2.31	1.16	1.01	.75
39D556F100EL4	55	100	C	2.36	1.18	1.03	.77
39D606F100GE4	60	100	G	2.52	1.26	1.10	.82
39D756F100FJ4	75	100	D	2.52	1.26	1.10	.82
39D906F100HE4	90	100	K	2.73	1.37	1.20	.89
39D117F100FL4	110	100	E	2.76	1.38	1.21	.90
39D127F100GJ4	120	100	H	2.78	1.39	1.22	.90
39D137F100JE4	130	100	P	2.79	1.39	1.22	.91
39D157F100FP4	150	100	F	2.79	1.39	1.22	.91
39D187F100HJ4	180	100	L	2.91	1.46	1.27	.95
39D197F100GL4	190	100	I	2.92	1.46	1.28	.95
39D257F100GP4	250	100	J	3.05	1.52	1.33	.99
39D267F100JJ4	260	100	Q	3.06	1.53	1.34	1.00
39D287F100HL4	280	100	M	3.17	1.59	1.39	1.03
39D377F100HP4	370	100	N	3.31	1.65	1.45	1.08
39D397F100JL4	390	100	R	3.45	1.72	1.51	1.12
39D467F100HS4	460	100	O	3.69	1.85	1.62	1.20
39D527F100JP4	520	100	S	3.76	1.88	1.64	1.22
39D657F100JS4	650	100	T	4.27	2.13	1.87	1.39
39D787F100JT4	780	100	U	4.66	2.33	2.04	1.51
39D106F150EE4	10	150	A	2.29	1.14	1.00	.74
39D256F150EJ4	25	150	B	2.36	1.18	1.03	.77
39D406F150EL4	40	150	C	2.41	1.20	1.05	.78
39D506F150FJ4	50	150	D	2.58	1.29	1.13	.84
39D606F150HE4	60	150	K	2.79	1.39	1.22	.91
39D806F150FL4	80	150	E	2.82	1.41	1.23	.92
39D856F150GJ4	85	150	H	2.84	1.42	1.24	.92
39D886F150JE4	88	150	P	2.86	1.43	1.25	.93
39D107F150FP4	100	150	F	2.85	1.43	1.25	.93
39D127F150GL4	120	150	I	2.99	1.49	1.31	.97
39D177F150GP4	170	150	D	3.13	1.57	1.37	1.02

TYPE 39D CONTINUED ON THE FOLLOWING PAGE

TYPE 39D POWERLYTIC® TUBULAR ELECTROLYTIC CAPACITORS (CONT'D)

Sprague Number	Cap., µF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D197F150HL4	190	150	M	$3.25	$1.63	$1.42	$1.06
39D267F150HP4	250	150	N	3.40	1.70	1.49	1.11
39D267F150JL4	260	150	R	3.55	1.78	1.55	1.15
39D317F150HS4	310	150	O	3.80	1.90	1.66	1.23
39D357F150JP4	350	150	S	3.83	1.92	1.68	1.25
39D447F150JS4	440	150	T	4.41	2.20	1.93	1.43
39D537F150JT4	530	150	U	4.82	2.41	2.11	1.57
39D905F200EE4	9	200	A	2.29	1.14	1.00	.74
39D156F200EJ4	15	200	B	2.36	1.18	1.03	.77
39D256F200EL4	25	200	C	2.41	1.20	1.05	.78
39D306F200GE4	30	200	G	2.58	1.29	1.13	.84
39D356F200FJ4	35	200	D	2.58	1.29	1.13	.84
39D406F200HE4	40	200	K	2.79	1.39	1.22	.91
39D556F200FL4	55	200	E	2.82	1.41	1.23	.92
39D606F200GJ4	60	200	H	2.84	1.42	1.24	.92
39D756F200FP4	75	200	F	2.85	1.43	1.25	.93
39D806F200HJ4	80	200	L	2.98	1.49	1.30	.97
39D906F200GL4	90	200	I	2.99	1.49	1.31	.97
39D127F200GP4	120	200	J	3.13	1.57	1.37	1.02
39D137F200HL4	130	200	M	3.25	1.63	1.42	1.06
39D177F200HP4	170	200	N	3.40	1.70	1.49	1.11
39D187F200JL4	180	200	R	3.55	1.78	1.55	1.15
39D227F200HS4	220	200	O	3.80	1.99	1.66	1.23
39D257F200JP4	250	200	S	3.83	1.92	1.68	1.25
39D317F200JS4	310	200	T	4.41	2.20	1.93	1.43
39D377F200JT4	370	200	U	4.82	2.41	2.11	1.57
39D705F250EE4	7	250	A	2.29	1.14	1.00	.74
39D156F250EJ4	15	250	B	2.36	1.18	1.03	.77
39D206F250EL4	20	250	C	2.41	1.20	1.05	.78
39D306F250FJ4	30	250	D	2.58	1.29	1.13	.84
39D356F250HE4	35	250	K	2.79	1.39	1.22	.91
39D456F250FL4	45	250	E	2.82	1.41	1.23	.92
39D506F250JE4	50	250	P	2.86	1.43	1.25	.93
39D606F250FP4	60	250	F	2.85	1.43	1.25	.93
39D706F250GL4	70	250	I	2.99	1.49	1.31	.97
39D956F250GP4	95	250	J	3.13	1.57	1.37	1.02
39D107F250HL4	100	250	M	3.25	1.63	1.42	1.06
39D147F250HP4	140	250	N	3.40	1.70	1.49	1.11
39D157F250JL4	150	250	R	3.55	1.78	1.55	1.15
39D187F250HS4	180	250	O	3.80	1.90	1.66	1.23
39D207F250JP4	200	250	S	3.83	1.92	1.68	1.25
39D257F250JS4	250	250	T	4.41	2.20	1.93	1.43
39D307F250JT4	300	250	U	4.82	2.41	2.11	1.57
39D505F300EE4	5	300	A	2.29	1.14	1.00	.74
39D106F300EJ4	10	300	B	2.36	1.18	1.03	.77
39D156F300EL4	15	300	C	2.41	1.20	1.05	.78
39D206F300FJ4	20	300	D	2.58	1.29	1.13	.84
39D256F300HE4	25	300	K	2.79	1.39	1.22	.91
39D306F300FL4	30	300	E	2.82	1.41	1.23	.92
39D127F300HS4	120	300	O	3.80	1.90	1.66	1.23
39D137F300JP4	130	300	S	3.83	1.92	1.68	1.25
39D177F300JS4	170	300	T	4.41	2.20	1.93	1.43
39D207F300JT4	200	300	U	4.82	2.41	2.11	1.57

Sprague Number	Cap., µF	WV DC	Size *	Net Each, Lots of 1-24	25-49	50-99	100-499
39D406F300FP4	40	300	F	$2.85	$1.43	$1.25	$0.93
39D506F300GL4	50	300	I	2.99	1.49	1.31	.97
39D656F300GP4	65	300	J	3.13	1.57	1.37	1.02
39D756F300HL4	75	300	M	3.25	1.63	1.42	1.06
39D107F300HP4	100	300	N	3.40	1.70	1.49	1.11
39D405F350EE4	4	350	A	2.29	1.14	1.00	.74
39D805F350EJ4	8	350	B	2.36	1.18	1.03	.77
39D126F350EL4	12	350	C	2.41	1.20	1.05	.78
39D156F350FJ4	15	350	D	2.58	1.29	1.13	.84
39D206F350FL4	20	350	E	2.82	1.41	1.23	.92
39D256F350GJ4	25	350	H	2.84	1.42	1.24	.92
39D306F350FP4	30	350	F	2.85	1.43	1.25	.93
39D406F350GL4	40	350	I	2.99	1.49	1.31	.97
39D506F350GP4	50	350	J	3.13	1.57	1.37	1.02
39D606F350HL4	60	350	M	3.25	1.63	1.42	1.06
39D806F350HP4	80	350	N	3.40	1.70	1.49	1.11
39D107F350HS4	100	350	O	3.80	1.90	1.66	1.23
39D117F350JP4	110	350	S	3.83	1.92	1.68	1.25
39D137F350JS4	130	350	T	4.41	2.20	1.93	1.43
39D167F350JT4	160	350	U	4.82	2.41	2.11	1.57
39D205F400EE4	2	400	A	2.29	1.14	1.00	.74
39D505F400EJ4	5	400	B	2.36	1.18	1.03	.77
39D106F400FJ4	10	400	D	2.58	1.29	1.13	.84
39D156F400FL4	15	400	E	2.82	1.41	1.23	.92
39D206F400FP4	20	400	F	2.85	1.43	1.25	.93
39D256F400GL4	25	400	I	2.99	1.49	1.31	.97
39D356F400GP4	35	400	J	3.13	1.57	1.37	1.02
39D406F400HL4	40	400	M	3.25	1.63	1.42	1.06
39D556F400HP4	55	400	N	3.40	1.70	1.49	1.11
39D656F400HS4	65	400	O	3.80	1.90	1.66	1.23
39D756F400JP4	75	400	S	3.83	1.92	1.68	1.25
39D906F400JS4	90	400	T	4.41	2.20	1.93	1.43
39D117F400JT4	110	400	U	4.82	2.41	2.11	1.57
39D105F450EE4	1	450	A	2.29	1.14	1.00	.74
39D305F450EJ4	3	450	B	2.36	1.18	1.03	.77
39D505F450EL4	5	450	C	2.41	1.20	1.05	.78
39D106F450FL4	10	450	E	2.82	1.41	1.23	.92
39D156F450FP4	15	450	F	2.85	1.43	1.25	.93
39D206F450GL4	20	450	I	2.99	1.49	1.31	.97
39D256F450GP4	25	450	J	3.13	1.57	1.37	1.02
39D356F450HP4	35	450	N	3.40	1.70	1.49	1.11
39D456F450HS4	45	450	O	3.80	1.90	1.66	1.23
39D506F450JP4	50	450	S	3.83	1.92	1.68	1.25
39D656F450JS4	65	450	T	4.41	2.20	1.93	1.43
39D756F450JT4	75	450	U	4.82	2.41	2.11	1.57

*SIZE

Size in inches (dia. x lg.): **A**, 3/16 x 1 1/4; **B**, 3/16 x 1 3/4; **C**, 3/16 x 2 1/4; **D**, 1 1/16 x 1 3/4; **E**, 1 1/16 x 2 1/4; **F**, 1 1/16 x 2 3/4; **G**, 1 3/16 x 1 1/4; **H**, 1 3/16 x 1 3/4; **I**, 1 3/16 x 2 1/4; **J**, 1 3/16 x 2 3/4; **K**, 1 5/16 x 1 1/4; **L**, 1 5/16 x 1 3/4; **M**, 1 5/16 x 2 1/4; **N**, 1 5/16 x 2 3/4; **O**, 1 5/16 x 3 1/2; **P**, 1 1/16 x 1 1/2; **Q**, 1 1/16 x 1 3/4; **R**, 1 1/16 x 2 1/4; **S**, 1 1/16 x 2 3/4; **T**, 1 1/16 x 3 1/4; **U**, 1 1/16 x 3 3/4.

TYPE SD DIPPED TANTALEX® SOLID-TANTALUM CAPACITORS

High stability, tantalum capacitors show very little capacitance change, even at outer limits of operating temperature range of −55° C to +85° C. Low dissipation factor permits higher ripple currents. Capacitance tolerance, ±10%.

Sprague Number	Cap., µF	Rated Volts	★ Code
SD4-109	10	4	AA1
SD4-129	12	4	AA1
SD4-569	56	4	AB1
SD4-829	82	4	AC1
SD4-1009	100	4	AC1
SD4-1809	180	4	AD1
SD4-2209	220	4	AD1
SD6-6R89	6.8	6	AA1
SD6-8R29	8.2	6	AA1
SD6-339	33	6	AB1
SD6-399	39	6	AB1
SD6-479	47	6	AB1
SD6-569	56	6	AC1
SD6-689	68	6	AC1
SD6-1209	120	6	AD1
SD6-1509	150	6	AD1
SD6-2709	270	6	AE1
SD6-3309	330	6	AE1
SD10-4R79	4.7	10	AA1
SD10-5R69	5.6	10	AA1
SD10-229	22	10	AB1
SD10-279	27	10	AB1
SD10-339	33	10	AC1
SD10-399	39	10	AC1
SD10-829	82	10	AD1
SD10-1009	100	10	AD1
SD10-1809	180	10	AE1
SD10-2209	220	10	AE1
SD15-3R39	3.3	15	AA1
SD15-3R99	3.9	15	AA1
SD15-159	15	15	AB1
SD15-189	18	15	AB1
SD15-229	22	15	AC1
SD15-569	56	15	AD1
SD15-689	68	15	AD1
SD15-1209	120	15	AE1
SD15-1509	150	15	AE1
SD20-2R79	2.7	20	AA1
SD20-109	10	20	AB1
SD20-129	12	20	AB1
SD20-159	15	20	AC1
SD20-189	18	20	AC1
SD20-399	39	20	AD1
SD20-479	47	20	AD1
SD20-829	82	20	AE1
SD20-1009	100	20	AE1
SD25-1R29	1.2	25	AA1
SD25-1R59	1.5	25	AA1
SD25-1R89	1.8	25	AA1
SD25-2R29	2.2	25	AA1
SD25-5R69	5.6	25	AB1
SD25-6R89	6.8	25	AB1
SD25-8R29	8.2	25	AB1
SD25-109	10	25	AC1
SD25-129	12	25	AC1
SD25-279	27	25	AD1
SD25-339	33	25	AD1
SD25-569	56	25	AE1
SD25-689	68	25	AE1
SD35-R109	.1	35	AA1
SD35-R129	.12	35	AA1
SD35-R159	.15	35	AA1
SD35-R189	.18	35	AA1
SD35-R229	.22	35	AA1
SD35-R279	.27	35	AA1
SD35-R339	.33	35	AA1
SD35-R399	.39	35	AA1
SD35-R479	.47	35	AA1
SD35-R569	.56	35	AA1
SD35-R689	.68	35	AA1
SD35-R829	.82	35	AA1
SD35-19	1.0	35	AA1
SD35-1R29	1.2	35	AB1
SD35-1R59	1.5	35	AB1
SD35-1R89	1.8	35	AB1
SD35-2R29	2.2	35	AB1
SD35-2R79	2.7	35	AB1
SD35-3R39	3.3	35	AB1
SD35-3R99	3.9	35	AB1
SD35-4R79	4.7	35	AB1
SD35-5R69	5.6	35	AC1
SD35-6R89	6.8	35	AC1
SD35-8R29	8.2	35	AD1
SD35-109	10	35	AD1
SD35-129	12	35	AD1
SD35-159	15	35	AD1
SD35-189	18	35	AD1
SD35-229	22	35	AD1
SD35-279	27	35	AE3
SD35-339	33	35	AE3
SD35-399	39	35	AE3
SD35-479	47	35	AE3
SD50-R109	.1	50	AA2
SD50-R129	.12	50	AA2
SD50-R159	.15	50	AA2
SD50-R189	.18	50	AA2
SD50-R229	.22	50	AA2
SD50-R279	.27	50	AA2
SD50-R339	.33	50	AA2
SD50-R399	.39	50	AA2
SD50-R479	.47	50	AA2
SD50-R569	.56	50	AA2
SD50-R689	.68	50	AA2
SD50-R829	.82	50	AA2
SD50-19	1.0	50	AA2
SD50-1R29	1.2	50	AB2
SD50-1R59	1.5	50	AB2
SD50-1R89	1.8	50	AB2
SD50-2R29	2.2	50	AB2
SD50-2R79	2.7	50	AB2
SD50-3R39	3.3	50	AB2
SD50-3R99	3.9	50	AB3
SD50-4R79	4.7	50	AB3
SD50-5R69	5.6	50	AD2
SD50-6R89	6.8	50	AD2
SD50-8R29	8.2	50	AD2
SD50-109	10	50	AD2
SD50-129	12	50	AD2
SD50-159	15	50	AD2
SD50-189	18	50	AE2
SD50-229	22	50	AE2

★ SIZE/PRICE CODES

Size/Price Code	Size, Ins. D x L	Net Each, Lots of 1-99	100-499	500 Up
AA1	3/16 x 3/8	$0.540	$0.310	$0.240
AA2	3/16 x 3/8	.640	.370	.290
AB1	1 5/64 x 7/16	1.130	.650	.510
AB2	1 5/64 x 7/16	1.310	.750	.580
AB3	1 5/64 x 7/16	1.550	.890	.690
AC1	1 5/64 x 2 9/64	1.380	.790	.610
AD1	2 3/64 x 2 1/32	4.470	2.560	1.990
AD2	2 3/64 x 2 1/32	4.750	2.720	2.110
AE1	1 1/32 x 3/4	8.500	4.870	3.780
AE2	1 1/32 x 3/4	9.100	5.210	4.040
AE3	1 1/32 x 3/4	8.500	4.870	3.780

TYPE 36D POWERLYTIC® ALUMINUM ELECTROLYTIC CAPACITORS

Especially suitable for replacement applications. Maximum space economy at operating temperatures up to 85° C. Low ESR and leakage currents. Extremely long shelf life. Uses most reliable seal developed for aluminum electrolytic capacitors. Pressure-type safety vents employing silicone rubber are used on all cases. Capacitors listed have low-insert terminals; change last character of model no. from **A** to **B** for high-insert or **A** to **C** for solder-lug terminals, price on request.

3 WVDC

Sprague Number	Cap., µF	*
36D103G003AA2A	10000	AA1
36D203G003AB2A	20000	AB1
36D303G003AC2A	30000	AC1
36D363G003AD2A	36000	AD1
36D413G003AE2A	41000	AE1
36D463G003AF2A	46000	AF1
36D473G003BB2A	47000	BB1
36D703G003BC2A	70000	BC1
36D803G003CB2A	80000	CB1
36D823G003BD2A	82000	BD1
36D943G003BE2A	94000	BE1
36D104G003BF2A	100000	BF1
36D124G003CC2A	120000	CC1
36D144G003CD2A	140000	CD1
36D164G003CE2A	160000	CE1
36D174G003DC2A	170000	DC1
36D184G003CF2A	180000	CF1
36D204G003DD2A	200000	DD1
36D234G003DE2A	230000	DE1
36D274G003DF2A	270000	DF1

6 WVDC

Sprague Number	Cap., µF	*
36D702G006AA2A	7000	AA1
36D143G006AB2A	14000	AB1
36D213G006AC2A	21000	AC1
36D253G006AD2A	25000	AD1
36D293G006AE2A	29000	AE1
36D323G006AF2A	32000	AF1
36D333G006BB2A	33000	BB1
36D503G006BC2A	50000	BC1
36D573G006CB2A	57000	CB1
36D583G006BD2A	58000	BD1
36D663G006BE2A	66000	BE1
36D753G006BF2A	75000	BF1
36D863G006CC2A	86000	CC1
36D104G006CD2A	100000	CD1
36D114G006CE2A	110000	CE1
36D124G006DC2A	120000	DC1
36D144G006DD2A	140000	DD1
36D164G006DE2A	160000	DE1
36D194G006DF2A	190000	DF1

10 WVDC

Sprague Number	Cap., µF	*
36D602G010AA2A	6000	AA1
36D123G010AB2A	12000	AB1
36D183G010AC2A	18000	AC1
36D213G010AD2A	21000	AD1
36D243G010AE2A	24000	AE1
36D273G010AF2A	27000	AF1
36D283G010BB2A	28000	BB1
36D423G010BC2A	42000	BC1
36D483G010CB2A	48000	CB1
36D493G010BD2A	49000	BD1
36D563G010BE2A	56000	BE1
36D633G010BF2A	63000	BF1
36D723G010CC2A	72000	CC1
36D843G010CD2A	84000	CD1
36D963G010CE2A	96000	CE1
36D104G010CF2A	100000	CF1
36D104G010DC2A	100000	DC1
36D124G010DD2A	120000	DD1
36D144G010DE2A	140000	DE1
36D164G010DF2A	160000	DF1

15 WVDC

Sprague Number	Cap., µF	*
36D462G015AA2A	4600	AA1
36D922G015AB2A	9200	AB1
36D133G015AC2A	13000	AC1
36D163G015AD2A	16000	AD1
36D183G015AE2A	18000	AE1
36D203G015AF2A	20000	AF1
36D213G015BB2A	21000	BB1
36D313G015BC2A	31000	BC1
36D363G015CB2A	36000	CB1
36D373G015BD2A	37000	BD1
36D423G015BE2A	42000	BE1
36D473G015BF2A	47000	BF1
36D543G015CC2A	54000	CC1
36D633G015CD2A	63000	CD1
36D723G015CE2A	72000	CE1
36D803G015DC2A	80000	DC1
36D813G015CF2A	81000	CF1
36D933G015DD2A	93000	DD1
36D104G015DE2A	100000	DE1
36D124G015DF2A	120000	DF1

25 WVDC

Sprague Number	Cap., µF	*
36D272G025AA2A	2700	AA1
36D552G025AB2A	5500	AB1
36D822G025AC2A	8200	AC1
36D962G025AD2A	9600	AD1

25 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D113G025AE2A	11000	AE1
36D123G025AF2A	12000	AF1
36D183G025BC2A	18000	BC1
36D213G025CB2A	21000	CB1
36D223G025BD2A	22000	BD1
36D253G025BE2A	25000	BE1
36D283G025BF2A	28000	BF1
36D323G025CC2A	32000	CC1
36D383G025CD2A	38000	CD1
36D433G025CE2A	43000	CE1
36D473G025DC2A	47000	DC1
36D483G025CF2A	48000	CF1
36D553G025DD2A	55000	DD1
36D633G025DE2A	63000	DE1
36D713G025DF2A	71000	DF1

30 WVDC

Sprague Number	Cap., µF	*
36D202G030AA2A	2000	AA1
36D402G030AB2A	4000	AB1
36D602G030AC2A	6000	AC1
36D722G030AD2A	7200	AD1
36D832G030AE2A	8300	AE1
36D932G030AF2A	9300	AF1
36D952G030BB2A	9500	BB1
36D143G030BC2A	14000	BC1
36D163G030BD2A	16000	BD1
36D193G030BE2A	19000	BE1
36D213G030BF2A	21000	BF1
36D243G030CC2A	24000	CC1
36D283G030CD2A	28000	CD1
36D323G030CE2A	32000	CE1
36D363G030DC2A	36000	DC1
36D373G030CF2A	37000	CF1
36D423G030DD2A	42000	DD1
36D483G030DE2A	48000	DE1
36D543G030DF2A	54000	DF1

40 WVDC

Sprague Number	Cap., µF	*
36D182G040AA2A	1800	AA1
36D362G040AB2A	3600	AB1
36D552G040AC2A	5500	AC1
36D642G040AD2A	6400	AD1
36D732G040AE2A	7300	AE1
36D832G040AF2A	8300	AF1
36D842G040BB2A	8400	BB1
36D123G040BC2A	12000	BC1
36D143G040BD2A	14000	BD1
36D163G040BE2A	16000	BE1
36D193G040BF2A	19000	BF1
36D213G040CC2A	21000	CC1
36D253G040CD2A	25000	CD1
36D283G040CE2A	28000	CE1
36D313G040DC2A	31000	DC1
36D323G040CF2A	32000	CF1
36D373G040DD2A	37000	DD1
36D423G040DE2A	42000	DE1

50 WVDC

Sprague Number	Cap., µF	*
36D132G050AA2A	1300	AA1
36D262G050AB2A	2600	AB1
36D392G050AC2A	3900	AC1
36D462G050AD2A	4600	AD1
36D522G050AE2A	5200	AE1
36D592G050AF2A	5900	AF1
36D602G050BB2A	6000	BB1
36D902G050BC2A	9000	BC1
36D103G050BD2A	10000	BD1
36D123G050BE2A	12000	BE1
36D133G050BF2A	13000	BF1
36D153G050CC2A	15000	CC1
36D183G050CD2A	18000	CD1
36D203G050CE2A	20000	CE1
36D223G050DC2A	22000	DC1
36D233G050CF2A	23000	CF1
36D263G050DD2A	26000	DD1
36D303G050DE2A	30000	DE1
36D343G050DF2A	34000	DF1

75 WVDC

Sprague Number	Cap., µF	*
36D851G075AA2A	850	AA2
36D172G075AB2A	1700	AB2
36D252G075AC2A	2500	AC2
36D302G075AD2A	3000	AD2
36D342G075AE2A	3400	AE2
36D382G075AF2A	3800	AF2
36D392G075BB2A	3900	BB2
36D592G075BC2A	5900	BC2
36D672G075CB2A	6700	CB2
36D692G075BD2A	6900	BD2
36D782G075BE2A	7800	BE2
36D882G075BF2A	8800	BF2
36D103G075CC2A	10000	CC2
36D113G075CD2A	11000	CD2
36D133G075CE2A	13000	CE2
36D143G075DC2A	14000	DC2

75 WVDC (Cont'd.)

Sprague Number	Cap., µF	*
36D153G075CF2A	15000	CF2
36D173G075DD2A	17000	DD2
36D203G075DE2A	20000	DE2
36D223G075DF2A	22000	DF2

100 WVDC

Sprague Number	Cap., µF	*
36D451G100AA2A	450	AA2
36D901G100AB2A	900	AB2
36D132G100AC2A	1300	AC2
36D152G100AD2A	1500	AD2
36D182G100AE2A	1800	AE2
36D202G100AF2A	2000	AF2
36D302G100BC2A	3000	BC2
36D352G100CB2A	3500	CB2
36D362G100BD2A	3600	BD2
36D402G100BE2A	4000	BE2
36D452G100BF2A	4500	BF2
36D532G100CC2A	5300	CC2
36D612G100CD2A	6100	CD2
36D702G100CE2A	7000	CE2
36D782G100CF2A	7800	CF2
36D782G100DC2A	7800	DC2
36D912G100DD2A	9100	DD2
36D103G100DE2A	10000	DE2
36D113G100DF2A	11000	DF2

150 WVDC

Sprague Number	Cap., µF	*
36D301F150AA2A	300	AA3
36D601F150AB2A	600	AB3
36D901F150AC2A	900	AC3
36D112F150AD2A	1100	AD3
36D122F150AE2A	1200	AE3
36D132F150AF2A	1300	AF3
36D142F150BB2A	1400	BB3
36D212F150BC2A	2100	BC3
36D242F150BD2A	2400	BD3
36D272F150BE2A	2700	BE3
36D312F150BF2A	3100	BF3
36D362F150CC2A	3600	CC3
36D422F150CD2A	4200	CD3
36D472F150CE2A	4700	CE3
36D532F150CF2A	5300	CF3
36D532F150DC2A	5300	DC3
36D622F150DD2A	6200	DD3
36D702F150DE2A	7000	DE3
36D782F150DF2A	7800	DF3

200 WVDC

Sprague Number	Cap., µF	*
36D251F200AA2A	250	AA3
36D431F200AB2A	430	AB3
36D641F200AC2A	640	AC3
36D771F200AD2A	770	AD3
36D851F200AE2A	850	AE3
36D951F200AF2A	950	AF3
36D142F200BC2A	1400	BC3
36D162F200CB2A	1600	CB3
36D172F200BD2A	1700	BD3
36D192F200BE2A	1900	BE3
36D212F200BF2A	2100	BF3
36D252F200CC2A	2500	CC3
36D292F200CD2A	2900	CD3
36D332F200CE2A	3300	CE3
36D372F200CF2A	3700	CF3
36D372F200DC2A	3700	DC3
36D432F200DD2A	4300	DD3
36D482F200DE2A	4800	DE3
36D552F200DF2A	5500	DF3

250 WVDC

Sprague Number	Cap., µF	*
36D171F250AA2A	170	AA3
36D351F250AB2A	350	AB3
36D531F250AC2A	530	AC3
36D631F250AD2A	630	AD3
36D701F250AE2A	700	AE3
36D781F250AF2A	780	AF3
36D801F250BB2A	800	BB3
36D122F250BC2A	1200	BC3
36D132F250CB2A	1300	CB3
36D142F250BD2A	1400	BD3
36D152F250BE2A	1500	BE3
36D172F250BF2A	1700	BF3
36D202F250CC2A	2000	CC3
36D242F250CD2A	2400	CD3
36D272F250CE2A	2700	CE3
36D302F250CF2A	3000	CF3
36D302F250DC2A	3000	DC3
36D352F250DD2A	3500	DD3
36D402F250DE2A	4000	DE3
36D452F250DF2A	4500	DF3

TYPE 36D CONTINUED ON THE FOLLOWING PAGE

TYPE 36D ELECTROLYTIC CAPACITORS (CONT'D)

300 WVDC

Sprague Number	Cap., μF	*
36D121F300AA2A	120	AA3
36D241F300AB2A	240	AB3
36D371F300AC2A	370	AC3
36D451F300AD2A	450	AD3
36D501F300AE2A	500	AE3
36D551F300AF2A	550	AF3
36D821F300BC2A	820	BC3
36D951F300BD2A	950	BD3
36D112F300BE2A	1100	BE3
36D122F300BF2A	1200	BF3
36D142F300CC2A	1400	CC3
36D162F300CD2A	1600	CD3
36D182F300CE2A	1800	CE3
36D212F300CF2A	2100	CF3
36D212F300DC2A	2100	DC3
36D242F300DD2A	2400	DD3
36D272F300DE2A	2700	DE3
36D312F300DF2A	3100	DF3

350 WVDC

Sprague Number	Cap., μF	*
36D950F350AA2A	95	AA3
36D191F350AB2A	190	AB3
36D291F350AC2A	290	AC3
36D361F350AD2A	360	AD3
36D391F350AE2A	390	AE3
36D421F350BB2A	420	BB3
36D441F350AF2A	440	AF3
36D651F350BC2A	650	BC3

350 WVDC (Cont'd.)

Sprague Number	Cap., μF	*
36D751F350CB2A	750	CB3
36D781F350BD2A	780	BD3
36D881F350BE2A	880	BE3
36D102F350BF2A	1000	BF3
36D112F350CC2A	1100	CC3
36D132F350CD2A	1300	CD3
36D152F350CE2A	1500	CE3
36D162F350DC2A	1600	DC3
36D172F350CF2A	1700	CF3
36D192F350DD2A	1900	DD3
36D222F350DE2A	2200	DE3
36D252F350DF2A	2500	DF3

400 WVDC

Sprague Number	Cap., μF	*
36D650F400AA2A	65	AA3
36D121F400AB2A	120	AB3
36D191F400AC2A	190	AC3
36D231F400AD2A	230	AD3
36D271F400AE2A	270	AE3
36D291F400BB2A	290	BB3
36D301F400AF2A	300	AF3
36D421F400BC2A	420	BC3
36D491F400CB2A	490	CB3
36D531F400BD2A	530	BD3
36D611F400BE2A	610	BE3
36D681F400BF2A	680	BF3
36D791F400CC2A	790	CC3
36D911F400CD2A	910	CD3

400 WVDC (Cont'd.)

Sprague Number	Cap., μF	*
36D102F400CE2A	1000	CE3
36D102F400DC2A	1000	DC3
36D112F400CF2A	1100	CF3
36D122F400DD2A	1200	DD3
36D142F400DE2A	1400	DE3
36D162F400DF2A	1600	DF3

450 WVDC

Sprague Number	Cap., μF	*
36D500F450AA2A	50	AA3
36D101F450AB2A	100	AB3
36D141F450AC2A	140	AC3
36D171F450AD2A	170	AD3
36D191F450AE2A	190	AE3
36D211F450AF2A	210	AF3
36D221F450BB2A	220	BB3
36D331F450BC2A	330	BC3
36D381F450CB2A	380	CB3
36D391F450BD2A	390	BD3
36D441F450BE2A	440	BE3
36D491F450BF2A	490	BF3
36D571F450CC2A	570	CC3
36D661F450CD2A	660	CD3
36D761F450CE2A	760	CE3
36D851F450CF2A	850	CF3
36D861F450DC2A	860	DC3
36D102F450DD2A	1000	DD3
36D112F450DE2A	1100	DE3
36D122F450DF2A	1200	DF3

*CASE SIZES AND PRICES

* Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
AA1	1⅜ x 2½	$ 4.44	$ 3.70	$2.12	$1.92	$1.78
AA2	1⅜ x 2½	4.53	3.78	2.16	1.96	1.81
AA3	1⅜ x 2½	4.89	4.08	2.33	2.12	1.96
AB1	1⅜ x 3⅛	5.22	4.35	2.49	2.26	2.09
AB2	1⅜ x 3⅛	5.49	4.58	2.62	2.38	2.20
AB3	1⅜ x 3⅛	6.09	5.08	2.90	2.64	2.44
AC1	1⅜ x 4⅛	5.73	4.78	2.73	2.48	2.29
AC2	1⅜ x 4⅛	6.24	5.20	2.97	2.70	2.50
AC3	1⅜ x 4⅛	7.26	6.05	3.46	3.15	2.90
AD1	1⅜ x 4⅝	6.54	5.45	3.12	2.83	2.62
AD2	1⅜ x 4⅝	7.14	5.95	3.40	3.09	2.86
AD3	1⅜ x 4⅝	7.80	6.50	3.72	3.38	3.12
AE1	1⅜ x 5⅛	6.99	5.83	3.33	3.03	2.80
AE2	1⅜ x 5⅛	7.71	6.43	3.68	3.34	3.08
AE3	1⅜ x 5⅛	8.52	7.10	4.06	3.69	3.41
AF1	1⅜ x 5⅝	7.38	6.15	3.52	3.20	2.95
AF2	1⅜ x 5⅝	8.07	6.73	3.85	3.50	3.23
AF3	1⅜ x 5⅝	9.00	7.50	4.29	3.90	3.60
BB1	2 x 3⅛	8.04	6.70	3.83	3.48	3.22
BB2	2 x 3⅛	8.79	7.33	4.19	3.81	3.52
BB3	2 x 3⅛	10.02	8.35	4.78	4.34	4.01
BC1	2 x 4⅛	9.57	7.98	4.56	4.15	3.83
BC2	2 x 4⅛	10.53	8.78	5.02	4.56	4.21
BC3	2 x 4⅛	11.79	9.83	5.62	5.11	4.72
BD1	2 x 4⅝	11.37	9.48	5.42	4.93	4.55
BD2	2 x 4⅝	11.52	9.60	5.49	4.99	4.61
BD3	2 x 4⅝	13.20	11.00	6.29	5.72	5.28
BE1	2 x 5⅛	11.07	9.23	5.28	4.80	4.43
BE2	2 x 5⅛	12.45	10.38	5.94	5.40	4.98
BE3	2 x 5⅛	14.46	12.05	6.89	6.27	5.78

* Code	Size, Inches Dia. x Lgth.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
BF1	2 x 5⅝	$11.64	$ 9.70	$ 5.55	$ 5.04	$ 4.66
BF2	2 x 5⅝	13.35	11.13	6.36	5.79	5.34
BF3	2 x 5⅝	15.45	12.88	7.37	6.70	6.18
CB1	2½ x 3⅛	10.17	8.48	4.85	4.41	4.07
CB2	2½ x 3⅛	11.82	9.85	5.63	5.12	4.73
CB3	2½ x 3⅛	13.32	11.10	6.35	5.77	5.33
CC1	2½ x 4⅛	13.68	11.40	6.52	5.93	5.47
CC2	2½ x 4⅛	14.88	12.40	7.09	6.45	5.95
CC3	2½ x 4⅛	17.67	14.73	8.42	7.66	7.07
CD1	2½ x 4⅝	14.37	11.98	6.85	6.23	5.75
CD2	2½ x 4⅝	15.99	13.33	7.62	6.93	6.40
CD3	2½ x 4⅝	19.20	16.00	9.15	8.32	7.78
CE1	2½ x 5⅛	15.42	12.85	7.35	6.68	6.17
CE2	2½ x 5⅛	17.88	14.90	8.52	7.75	7.15
CE3	2½ x 5⅛	21.15	17.63	10.08	9.17	8.46
CF1	2½ x 5⅝	16.35	13.63	7.79	7.09	6.54
CF2	2½ x 5⅝	19.68	16.40	9.38	8.53	7.87
CF3	2½ x 5⅝	23.37	19.48	11.14	10.13	9.35
DC1	3 x 4⅛	19.17	15.98	9.14	8.31	7.67
DC2	3 x 4⅛	19.80	16.50	9.44	8.58	7.92
DC3	3 x 4⅛	23.37	19.48	11.14	10.13	9.35
DD1	3 x 4⅝	19.17	15.98	9.14	8.31	7.67
DD2	3 x 4⅝	21.84	18.20	10.41	9.46	8.74
DD3	3 x 4⅝	26.25	21.88	12.51	11.38	10.50
DE1	3 x 5⅛	20.70	17.25	9.87	8.97	8.28
DE2	3 x 5⅛	25.23	21.03	12.03	10.93	10.09
DE3	3 x 5⅛	30.21	25.18	14.40	13.09	12.08
DF1	3 x 5⅝	23.64	19.70	11.27	10.24	9.46
DF2	3 x 5⅝	26.67	22.23	12.71	11.56	10.67
DF3	3 x 5⅝	32.01	26.68	15.26	13.87	12.80

We are constantly adding new products and new manufacturers to our inventory. Call or write us for information on any product requirement not listed in this catalog.

TYPE TVLU UNI-LYTIC TWIST MOUNT CAPACITORS

Extended-range, twist-type mounting electrolytic capacitors for universal replacement applications. All capacitors in the Uni-Lytic series have been carefully selected to insure immediate availability of suitable replacements for OEM large can-type capacitors for entertainment and commercial applications such as twist prong mounting designs, wire-wrap terminal designs, and printed circuit board snap-in mounting designs.

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
SINGLE SECTION							
090	500–1000	25	B	$2.46	$1.85	$1.48	$1.09
093	2350–4700	25	E	2.97	2.24	1.79	1.31
095	3500–5000	25	K	3.96	2.99	2.39	1.76
097	5000–10000	25	L	4.26	3.21	2.57	1.89
101	5000–10000	45	P	7.26	5.43	4.39	3.23
108	50–100	50	A	2.28	1.71	1.37	1.01
115	250–500	50	C	2.43	1.84	1.47	1.08
120	1000–2000	50	E	3.15	2.39	1.91	1.40
125	1500–3000	50	K	4.23	3.19	2.55	1.88
129	2500–5000	50	M	4.89	3.70	2.96	2.18
135	500–1000	70	K	3.45	2.60	2.08	1.53
150	450–800	160	N	6.27	4.75	3.80	2.79
160	800–1400	175	Q	8.70	6.52	5.21	3.87
230	100–160	200	D	3.21	2.42	1.93	1.42
235	130–220	200	F	3.57	2.70	2.16	1.59
240	200–320	200	K	4.53	3.42	2.74	2.01
245	250–400	200	L	5.07	3.83	3.06	2.25
246	265–470	200	L	4.86	3.67	2.94	2.16
250	500–750	200	O	7.11	5.33	4.31	3.17
252	600–1000	200	P	7.89	5.91	4.78	3.51
265	40–60	250	B	2.64	1.99	1.59	1.17
330	50–80	300	D	2.94	2.22	1.78	1.31
340	100–160	300	F	3.87	2.93	2.35	1.73
420	20–40	350	B	2.67	2.02	1.62	1.19
440	100–160	350	K	4.47	3.37	2.69	1.98
450	200–320	350	M	6.21	4.69	3.76	2.76
550	40–60	450	E	3.30	2.49	1.99	1.46
555	60–90	450	K	4.11	3.11	2.49	1.83
580	140–200	450	O	6.72	5.03	4.06	2.99
625	8–20	475	B	3.00	2.26	1.81	1.33
750	60–90	500	L	4.89	3.70	2.96	2.18
775	100–150	500	M	6.15	4.64	3.72	2.73
850	4–10	525	B	2.73	2.05	1.64	1.21
920	20–40	525	E	3.75	2.83	2.27	1.67
930	30–50	525	K	4.23	3.19	2.55	1.88

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
DUAL SECTION							
010	250–500/250–500	16/16	B	$2.67	$2.02	$1.62	$1.19
035	1700–3300/ 235–470	25/25	K	4.02	3.04	2.43	1.79
040	1000–2000/ 1000–2000	30/30	F	3.36	2.54	2.03	1.49
060	1000–2000/ 1000–2000	35/35	K	3.81	2.88	2.31	1.70
065	1250–2500/ 1250–2500	35/35	K	3.99	3.01	2.41	1.77
090	375–750/375–750	40/40	I	3.15	2.39	1.91	1.40
110	100–200/100–200	50/50	B	2.55	1.93	1.55	1.14
140	250–500/250–500	50/50	K	3.27	2.47	1.98	1.45
150	1000–2000/ 250–500	50/50	K	4.11	3.11	2.49	1.83
175	750–1000/ 500–1000	75/75	K	4.89	3.70	2.96	2.18
185	90–160/90–160	100/100	D	2.88	2.17	1.74	1.28
250	425–750/425–750	125/125	P	7.74	5.81	4.69	3.45
325	100–150/50–100	150/50	E	3.21	2.42	1.94	1.42
340	30–50/30–50	150/150	B	2.82	2.13	1.70	1.25
345	20–40/20–40	150/150	B	2.73	2.05	1.64	1.21
350	60–100/40–70	150/150	D	3.18	2.40	1.92	1.41
405	200–300/200–300	150/150	L	5.22	3.95	3.16	2.33
407	470–820/28–47	160/160	N	6.84	5.13	4.14	3.05
410	225–400/140–250	165/165	N	5.64	4.26	3.41	2.51
415	150–250/30–50	175/175	K	3.93	2.96	2.37	1.74
475	40–60/40–60	200/200	C	3.15	2.38	1.91	1.40
510	60–100/20–40	200/200	D	2.97	2.24	1.79	1.31
520	225–400/100–200	200/200	N	5.88	4.44	3.55	2.61
525	260–470/5–10	200/200	L	5.61	4.24	3.39	2.49
530	260–470/260–470	200/200	P	7.92	5.94	4.80	3.53
535	250–500/30–50	200/200	M	5.85	4.41	3.53	2.60
610	80–150/60–100	250/250	K	4.65	3.52	2.82	2.07
630	175–300/175–300	250/250	N	7.02	5.25	4.26	3.12
665	280–500/5–10	100/300	H	4.23	3.19	2.55	1.88
670	90–150/150–250	300/250	M	6.21	4.69	3.76	2.76
730	8–20/8–20	350/350	B	2.91	2.19	1.75	1.29
740	20–40/20–40	350/350	D	3.57	2.70	2.16	1.59
750	60–100/40–60	350/350	K	4.80	3.62	2.90	2.13
760	150–200/5–10	350/350	L	5.34	4.03	3.23	2.37
765	150–200/10–20	350/350	L	5.34	4.03	3.23	2.37
770	125–200/40–60	350/350	L	5.22	3.95	3.16	2.33
775	120–200/80–130	350–350	M	6.45	4.87	3.90	2.87
780	140–200/140–200	350/350	P	7.68	5.76	4.65	3.42
782	140–250/140–250	350/350	P	8.16	6.11	4.94	3.63
785	200–300/10–20	350/350	O	6.84	5.13	4.14	3.05
810	50–80/20–40	400/400	K	4.05	3.06	2.45	1.80
815	80–120/50–80	400/400	M	5.73	4.34	3.47	2.55

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
DUAL SECTION (CONT'D)							
2820	100–150/20–40	400/400	L	$4.98	$3.78	$3.02	$2.22
2825	100–150/100–150	400/400	N	7.23	5.40	4.37	3.21
2840	20–40/150–250	450/250	M	5.22	3.95	3.16	2.33
2855	8–20/8–20	450/450	D	3.21	2.43	1.94	1.43
2860	20–40/4–10	450/450	E	3.33	2.51	2.01	1.48
2870	50–80/4–10	450/450	K	4.62	3.50	2.80	2.06
2875	50–80/4–10	450/450	G	4.38	3.32	2.65	1.95
2880	60–100/60–100	450/450	O	7.23	5.40	4.37	3.21
2885	60–90/140–200	475/250	O	6.87	5.15	4.16	3.06
2900	50–80/50–80	475/475	M	6.96	5.20	4.20	3.09
2910	4–10/4–10	500/500	B	3.06	2.31	1.85	1.36
2915	15–30/8–20	500/500	E	3.69	2.78	2.26	1.64
2920	20–40/10–20	500/500	K	4.53	3.42	2.74	2.01
2925	20–40/20–40	500/500	K	4.92	3.72	2.98	2.19
2930	40–60/20–40	500/500	L	5.70	4.31	3.45	2.54
2945	60–100/20–40	500/500	M	6.51	4.92	3.94	2.90
2950	60–100/40–60	500/500	M	6.27	4.75	3.80	2.79

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-48	50-99	100 Up
TRIPLE SECTION							
3030	750–1500/ 250–500/4–8	16/16/ 11.5rms	D	$3.33	$2.51	$2.01	$1.48
3040	300–700/200–500/ 100–200	16/16/ 16	B	3.03	2.30	1.84	1.35
3085	1500–3000/ 750–1500/ 175–300	25/20/ 10	K	4.47	3.37	2.69	1.98
3145	1100–1900/ 1100–1900/ 1100–1900	40/40/ 40	L	4.65	3.52	2.82	2.07
3150	1000–2000/ 1000–2000/ 20–50	40/40/ 40	N	5.04	3.80	3.04	2.24
3155	420–750/ 750–1500/ 250–500	50/40/ 40	L	4.02	3.04	2.43	1.79
3160	500–1000/ 500–1000/ 250–500	50/50/ 50	K	3.87	2.93	2.38	1.73
3195	350–600/300–500/ 70–100	100/100/ 100	J	5.52	4.18	3.35	2.46
3240	50–80/20–40/ 8–20	150/150/ 150	D	3.39	2.55	2.04	1.50
3245	50–80/30–60/ 20–40	150/150/ 150	D	3.36	2.54	2.03	1.49
3277	225–400/28–50/ 23–41	160/160/ 160	M	5.52	4.18	3.35	2.46
3278	400–700/280–500/ 75–150	175/175/ 50	Q	8.70	6.52	5.21	3.87
3278.5	100–200/200–400/ 25–50	180/180/ 180	M	6.03	4.57	3.65	2.69
3279	250–500/250–500/ 225–400	40/40/ 200	L	5.22	3.95	3.16	2.33
3287	115–200/115–200/ 115–200	200/160/ 160	M	5.52	4.18	3.35	2.46
3290	150–250/270–450/ 30–50	200/175/ 150	O	6.72	5.03	4.06	2.99
3295	80–120/50–80/ 40–60	200/200/ 200	F	4.23	3.19	2.55	1.88
3310	130–220/130–220/ 90–150	200/200/ 200	N	5.81	5.10	4.12	3.03
3330	150–250/120–200/ 20–40	200/200/ 200	M	6.24	4.72	3.78	2.78
3340	150–250/140–200/ 50–80	200/200/ 200	M	6.30	4.77	3.82	2.81
3350	250–400/200–320/ 10–20	200/200/ 200	O	7.68	5.76	4.65	3.42
3355	280–500/185–330/ 28–50	200/200/ 200	P	8.46	6.34	5.07	3.77
3357	315–560/5–10/ 5–10	200/200/ 200	N	7.08	5.38	4.29	3.15
3365	420–750/56–100/ 56–100	100/250/ 250	N	6.45	4.87	3.90	2.87
3380	20–40/20–40/ 20–40	250/250/ 250	D	3.51	2.65	2.12	1.56
3385	225–400/225–400/ 56–100	200/200/ 275	Q	8.07	6.04	4.88	3.59
3387	560–1000/ 56–100/56–100	75/275/ 275	N	5.85	4.41	3.53	2.60
3405	80–140/120–200/ 60–100	300/200/ 200	M	5.70	4.31	3.45	2.54
3415	20–40/10–20/ 60–100	300/300/ 175	E	3.51	2.65	2.12	1.56
3420	60–100/60–100/ 180–300	300/300/ 175	N	6.06	4.59	3.67	2.70
3425	40–60/40–60/ 25–50	300/300/ 300	F	4.26	3.21	2.57	1.89
3435	120–200/80–140/ 10–20	300/300/ 300	N	6.09	4.62	3.69	2.72
3440	150–250/60–100/ 2–5	300/300/ 300	M	5.91	4.46	3.57	2.63
3442	140–250/150–300/ 150–300	350/50/ 50	O	6.75	5.05	4.08	3.00

LISTING CONTINUED FOR NEXT TWO PAGES SEE LAST PAGE FOR CASE SIZES

TYPE TVLU UNI-LYTIC TWIST MOUNT CAPACITORS (CONT'D)

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
TRIPLE SECTION (CONT'D)							
3445	10-20/90-150/150-250	350/200/75	K	$4.23	$3.19	$2.55	$1.88
3447	56-100/85-150/45-80	350/200/200	M	5.46	4.13	3.31	2.43
3455	20-40/80-120/80-120	350/250/250	L	5.25	3.98	3.18	2.34
3465	150-250/2-5/150-250	350/350/25	O	6.54	4.95	3.96	2.91
3475	80-150/60-100/50-100	350/350/50	L	5.91	4.46	3.57	2.63
3485	20-40/10-20/20-40	350/350/100	D	3.36	2.54	2.03	1.49
3492	225-400/45-80/22-40	350/350/175	Q	8.67	6.49	5.19	3.86
3493	7-10/7-10/50-100	350/350/180	D	3.24	2.45	1.96	1.44
3505	15-30/10-20/10-20	350/350/350	D	3.24	2.44	1.95	1.43
3515	20-70/30-50/10-20	350/350/350	E	3.78	2.86	2.29	1.68
3525	50-80/20-40/20-40	350/350/350	K	4.68	3.55	2.84	2.09
3530	50-80/50-80/40-60	350/350/350	L	5.70	4.31	3.45	2.54
3535	80-125/40-60/20-40	350/350/350	L	5.43	4.11	3.29	2.42
3540	100-160/80-140/4-10	350/350/350	M	6.84	5.13	4.14	3.05
3545	100-160/80-140/20-40	350/350/350	N	7.23	5.40	4.37	3.21
3550	100-160/80-140/60-100	350/350/350	N	7.68	5.76	4.65	3.42
3565	125-200/90-150/60-100	350/350/350	O	8.34	6.24	4.99	3.71
3580	150-250/40-60/20-40	350/350/350	M	6.30	4.77	3.82	2.81
3590	250-400/20-40/15-25	350/350/350	P	8.16	6.11	4.94	3.63
3625	70-100/50-80/100-200	400/400/50	L	5.46	4.13	3.31	2.43
3630	10-20/10-20/5-10	400/400/400	D	3.39	2.55	2.04	1.50
3645	70-100/20-40/10-20	400/400/400	L	5.61	4.24	3.39	2.49
3665	30-50/100-160/30-50	450/250/50	O	5.85	4.41	3.53	2.60
3690	50-80/2-5/15-25	450/350/25	L	5.25	3.98	3.18	2.34
3710	20-40/140-200/40-60	450/350/350	N	6.87	5.15	4.16	3.06
3725	10-20/20-40/10-20	450/400/400	F	4.08	3.09	2.47	1.82
3740	60-80/10-20/60-125	450/450/50	L	5.19	3.93	3.14	2.31
3745	50-80/30-50/250-400	450/450/50	N	6.15	4.64	3.72	2.73
3760	50-80/30-50/50-80	450/450/300	N	5.79	4.39	3.51	2.58
3765	50-80/10-20/90-160	450/450/350	N	7.83	5.86	4.74	3.48
3770	60-100/20-40/80-140	450/450/350	O	7.35	5.51	4.45	3.27
3795	20-40/8-20/8-20	450/450/450	K	4.65	3.52	2.82	2.07
3800	20-40/20-40/20-40	450/450/450	L	5.43	4.11	3.29	2.42
3805	50-80/20-40/20-40	450/450/450	M	6.33	4.80	3.84	2.82
3815	70-100/70-100/30-50	475-400/400	O	8.01	6.01	4.86	3.57
3825	5-10/60-100/60-100	475/450/450	O	6.54	4.95	3.96	2.91
3830	20-40/60-100/50-80	475/450/450	O	7.89	5.91	4.78	3.51
3845	10-20/10-20/20-50	475/475/50	E	3.93	2.96	2.37	1.74
3855	15-30/10-20/10-15	475/475/50	F	4.20	3.16	2.53	1.86
3860	30-50/10-20/3-5	475/475/475	G	4.58	3.39	2.72	2.00
3865	30-50/20-40/20-40	475/475/475	M	6.09	4.62	3.69	2.72
3895	5-10/100-150/60-100	500/400/350	N	7.92	5.94	4.80	3.53
3905	10-20/5-10/75-150	500/500/50	E	3.78	2.86	2.29	1.68
3910	60-80/20-40/100-200	500/500/50	O	6.51	4.92	3.94	2.90
3915	40-60/20-40/80-120	500/500/450	O	7.95	5.96	4.82	3.54
3920	10-20/10-20/5-10	500/500/500	E	4.38	3.32	2.65	1.95
3925	20-40/8-20/5-10	500/500/500	L	5.25	3.98	3.18	2.34
3930	20-40/20-40/15-30	500/500/500	L	6.06	4.59	3.67	2.70
3935	40-60/20-40/10-20	500/500/500	L	6.75	5.05	4.08	3.00
3950	70-100/18-40/5-10	500/500/500	M	7.11	5.33	4.31	3.17
QUAD SECTION							
4010	425-850/200-400/125-250/6-15	16/16/2/11.5rms	I	$3.93	$2.96	$2.37	$1.74
4020	450-850/200-400/2-5/50-100	16/16/11.5rms/4	J	3.84	2.91	2.33	1.71
4025	450-850/200-400/8-15/50-100	16/16/11.5rms/4	J	3.78	2.86	2.29	1.68
4105	120-200/300-500/300-500/250-500	125/100/60/35	N	6.15	4.64	3.72	2.73
4110	250-400/350-600/40-60/100-200	125/100/100/50	N	6.33	4.80	3.84	2.82
4117	225-400/225-400/250-500/500-1000	150/150/35/85	Q	8.52	6.39	5.11	3.80
4145	40-70/30-50/20-40/100-200	150/150/150/50	K	4.23	3.19	2.55	1.88
4156	250-500/150-300/100-200/100-200	160/160/160/160	P	8.07	6.04	4.88	3.59
4157	260-470/185-330/56-100/56-100	160/160/160/160	P	8.43	6.31	5.05	3.75
4160	180-300/250-400/120-200/5-10	175/150/150/150	O	7.53	5.63	4.55	3.35
4163	280-500/170-300/10-20/15-30	175/150/150/175	P	7.62	5.71	4.61	3.39
4165	120-200/90-150/90-150/2-5	175/175/175/175	M	5.88	4.44	3.55	2.61
4170	150-250/120-200/50-60/15-30	175/175/175/175	N	6.24	4.72	3.78	2.78
4173	110-200/175-310/56-100/5-10	175/175/175/175	N	6.54	4.95	3.96	2.91
4175	250-400/120-200/5-10/2-5	175/175/175/175	N	6.72	5.03	4.06	2.99
4180	120-200/110-180/60-100/30-50	180/180/180/180	O	2.55	1.93	1.54	1.13
4181	130-260/10-20/120-240/20-40	180/180/180/180	M	6.21	4.69	3.76	2.76
4182	110-200/110-200/110-200/56-100	200/160/160/160	N	7.11	5.33	4.31	3.17
4185	150-250/400-650/30-50/5-10	200/175/175/150	P	8.43	6.31	5.05	3.75
4187	5-10/170-300/310-550/56-100	200/175/175/175	P	8.10	6.06	4.90	3.60
4188	195-350/195-350/85-150/280-500	200/200/100/100	Q	9.18	6.87	5.50	4.08
4190	300-450/50-80/40-60/2-5	200/200/175/175	P	6.63	4.98	4.02	2.96
4198	170-300/45-80/10-20/300-600	200/200/200/50	M	5.85	4.41	3.53	2.60
4201	150-300/50-100/50-100/500-1000	200/200/200/50	N	7.05	5.28	4.27	3.14
4205	60-100/50-80/40-60/30-50	200/200/200/200	K	5.07	3.83	3.06	2.25
4210	90-160/30-50/30-50/5-10	200/200/200/200	L	4.98	3.78	3.02	2.22
4215	140-240/100-240/90-160/5-10	200/200/200/200	O	7.65	5.73	4.63	3.41
4220	150-250/120-200/120-200/30-50	200/200/200/200	O	7.53	5.63	4.55	3.35
4222	150-300/100-200/25-50/25-50	200/200/200/200	N	7.05	5.28	4.27	3.14
4225	160-300/160-300/40-60/5-10	200/200/200/200	N	7.08	5.30	4.29	3.15
4232	100-200/200-400/25-50/25-50	200/200/200/200	O	7.62	5.71	4.61	3.39
4235	180-300/120-200/10-20/10-20	200/200/200/200	P	8.28	6.21	4.97	3.69
4237	225-400/225-400/250-500/5-10	200/200/200/200	R	9.36	7.02	5.62	4.17
4245	300-450/150-250/50-80/2-5	250/250/250/250	O	7.47	5.61	4.53	3.33
4247	125-250/325-650/25-50/5-10	150/150/35/300	P	7.32	5.48	4.43	3.26
4255	5-10/150-250/120-200/30-50	300/175/175/175	M	5.88	4.44	3.55	2.61
4257	5-10/50-100/500-1000/10-20	300/50/35/300	I	3.93	2.96	2.37	1.74
4258	250-500/560-1000/5-10/10-20	50/35/300/300	K	4.29	3.24	2.59	1.91
4260	120-200/4-10/150-250/20-40	300/300/200/200	N	7.02	5.25	4.25	3.12
4280	120-200/60-100/10-20/2-5	300/300/300/300	N	6.69	5.00	4.04	2.97
4290	50-100/250-500/250-500/100-200	350/50/25/25	M	5.52	4.18	3.35	2.46
4293	225-400/250-500/56-100/110-200	175/40/350/175	Q	7.86	5.89	4.76	3.50
4294	56-100/170-300/22-40/110-200	175/175/350/175	O	7.14	5.35	4.33	3.18
4295	60-100/100-150/2-5/50-100	350/200/150/50	M	6.15	4.64	3.72	2.73
4310	100-180/60-100/90-150/60-100	350/300/200/200	O	8.16	6.11	4.94	3.63
4322	100-150/100-150/250-500/250-500	350/350/50/50	O	7.35	5.51	4.45	3.27
4325	90-150/20-40/150-240/90-150	350/350/175/175	O	8.10	6.06	4.90	3.60
4326	125-250/60-100/60-100/50-100	180/350/350/180	O	7.11	5.33	4.31	3.17
4327	750-1500/15-30/15-30/10-20	15/350/350/200	K	4.38	3.32	2.65	1.95

LISTING CONTINUED ON NEXT PAGE SEE NEXT PAGE FOR CASE SIZES

PRAGUE Electrolytic Capacitors

TYPE TVLU UNI-LYTIC TWIST MOUNT CAPACITORS (CONT'D)

rt ·. LU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
QUAD SECTION (CONT'D)							
30	30-50/10-20/ 90-150/90-150	350/350/ 200/200	M	$6.09	$4.62	$3.69	$2.72
50	150-250/60-100/ 10-25/30-50	350/350/ 300/200	O	7.68	5.76	4.65	3.42
75	75-125/75-125/ 40-60/100-200	350/350/ 350/50	N	7.11	5.33	4.31	3.17
80	150-250/60-100/ 20-40/120-200	350/350/ 350/200	Q	8.73	6.54	5.23	3.89
85	30-50/20-40/ 20-40/10-20	350/350/ 350/350	K	4.89	3.70	2.96	2.18
95	40-70/40-70/ 30-50/20-40	350/350/ 350/350	L	5.79	4.39	3.51	2.58
05	60-100/20-40/ 8-20/4-10	350/350/ 350/350	L	5.22	3.95	3.16	2.33
10	60-100/40-70/ 20-40/20-40	350/350/ 350/350	L	6.15	4.64	3.72	2.73
15	70-120/50-80/ 20-40/4-10	350/350/ 350/350	L	5.52	4.18	3.35	2.46
20	90-150/60-100/ 20-40/10-20	350/350/ 350/350	M	7.14	5.35	4.33	3.18
25	80-150/60-100/ 30-50/30-50	350/350/ 350/350	N	7.53	5.63	4.55	3.35
30	120-200/100-160/ 50-80/5-10	350/350/ 350/350	O	8.91	6.67	5.33	3.96
35	150-250/100-150/ 60-100/15-25	350/350/ 350/350	P	8.43	6.31	5.05	3.75
15	40-60/50-80/ 60-100/25-50	400/350/ 200/50	M	5.85	4.41	3.53	2.60
17	56-100/85-150/ 10-20/28-50	400/350/ 250/250	O	7.29	5.46	4.41	3.24
20	20-40/70-120/ 5-10/100-200	400/350/ 350/50	L	5.10	3.85	3.08	2.27
25	20-40/50-80/ 40-60/120-200	400/350/ 350/200	M	6.54	4.95	3.96	2.91
35	100-150/60-100/ 50-80/4-10	400/350/ 350/350	N	7.23	5.40	4.37	3.21
40	80-120/20-40/ 80-160/20-40	400/400/ 50/50	M	6.00	4.54	3.63	2.67
45	50-80/4-10/ 50-80/100-200	400/400/ 350/50	M	6.87	5.15	4.16	3.06
55	70-100/50-80/ 20-40/60-100	400/400/ 400/350	N	7.08	5.30	4.29	3.15
60	20-40/20-40/ 10-20/10-20	400/400/ 400/400	K	4.80	3.62	2.90	2.13
65	70-100/20-40/ 10-20/10-20	400/400/ 400/400	L	5.52	4.18	3.35	2.46
70	70-100/50-80/ 4-10/4-10	400/400/ 400/400	M	6.48	4.90	3.92	2.88
75	80-120/40-60/ 20-40/2-5	400/400/ 400/400	M	6.33	4.80	3.84	2.82
80	80-120/70-100/ 20-40/2-5	400/400/ 400/400	N	6.72	5.03	4.06	2.99
85	80-120/70-100/ 40-60/10-20	400/400/ 400/400	O	8.07	6.04	4.88	3.59
87	7-10/250-500/ 250-500/250-500	450/150/ 150/50	R	7.86	5.89	4.76	3.50
90	10-20/95-160/ 30-50/25-50	450/250/ 75/50	O	6.42	4.85	3.88	2.85
05	10-20/80-150/ 60-100/50-100	450/350/ 350/50	N	6.60	5.00	4.00	2.94
15	50-80/90-150/ 70-120/50-100	450/350/ 350/50	P	7.95	5.96	4.82	3.54
25	4-10/60-100/ 10-20/20-40	450/400/ 400/50	L	5.49	4.16	3.33	2.45
42	15-20/15-20/ 50-100/500-1000	450/450/ 50/50	L	4.92	3.72	2.98	2.19
43	30-50/30-50/ 250-500/250-500	450/450/ 50/50	N	6.33	4.80	3.84	2.82
45	50-80/2-5 50-100/20-40	450/450/ 50/50	L	5.40	4.08	3.27	2.40
57	80-120/60-100/ 100-150/50-100	450/450/ 250/50	R	8.46	6.34	5.07	3.77
60	20-40/20-40/ 100-160/40-60	450/450/ 250/200	O	7.02	5.25	4.25	3.12
65	20-40/20-40/ 125-200/125-200	450/450/ 300/50	N	7.14	5.35	4.33	3.18
75	70-100/30-50/ 20-40/100-200	450/450/ 350/50	O	7.44	5.58	4.51	3.32

Part No. TVLU-	Capacity μFD	Rating Volts	★	Net Each, Lots of 1-24	25-49	50-99	100 Up
QUAD SECTION (CONT'D)							
4685	50-80/50-80/ 70-120/40-70	450/450/ 350/250	P	$8.73	$6.54	$5.23	$3.89
4690	20-40/10-20/ 150-250/4-10	450/450/ 350/350	O	7.02	5.25	4.25	3.12
4692	60-80/60-80/ 60-80/90-120	450/450/ 350/350	R	8.46	6.34	5.07	3.77
4695	10-20/7-15/ 7-15/50-100	450/450/ 450/50	K	4.11	3.11	2.49	1.83
4715	70-100/20-40/ 2-5/25-50	450/450/ 450/25	M	6.03	4.57	3.65	2.69
4720	70-100/30-50/ 10-20/50-100	450/450/ 450/50	N	7.29	5.46	4.41	3.24
4730	50-80/50-80/ 2-5/20-40	450/450/ 450/350	O	7.44	5.58	4.51	3.32
4745	20-40/20-40/ 10-20/10-20	450/450/ 450/450	L	5.40	4.08	3.27	2.40
4750	20-40/20-40/ 20-40/20-40	450/450/ 450/450	M	6.63	4.98	4.02	2.96
4755	30-50/20-40/ 20-40/10-20	450/450/ 450/450	M	6.06	4.59	3.67	2.70
4770	50-80/40-60/ 20-40/10-20	450/450/ 450/450	N	7.71	5.78	4.67	3.44
4775	50-80/40-60/ 20-40/20-40	450/450/ 450/450	O	8.07	6.04	4.88	3.59
4805	4-10/60-100/ 10-20/100-200	475/400/ 400/50	L	5.88	4.44	3.55	2.61
4810	4-10/70-100/ 50-80/20-40	475/400/ 400/400	N	6.75	5.05	4.08	3.00
4825	10-20/4-10/ 90-160/60-100	475/475/ 350/350	N	6.75	5.05	4.08	3.00
4830	20-40/10-20/ 100-160/4-10	475/475/ 350/350	N	7.23	5.40	4.37	3.21
4835	60-80/10-20/ 20-40/20-40	475/475/ 450/450	N	7.92	5.94	4.80	3.53
4840	15-30/4-10/ 4-10/100 200	475/475/ 475/50	K	4.83	3.65	2.92	2.15
4845	20-40/8-20 4-10/100-200	475-475/ 475/50	K	4.86	3.67	2.94	2.16
4850	30-50/20-40/ 4-10/40-80	475/475/ 475/50	L	5.49	4.16	3.33	2.45
4855	8-20/8-20/ 4-10/4-10	475/475/ 475/475	K	7.68	5.76	4.65	3.42
4860	40-60/20-40/ 20-40/10-20	475/475/ 475/475	N	6.96	5.20	4.20	3.09
4865	60-80/60-80/ 4-10/4-10	475/475/ 475/475	O	8.10	6.06	4.90	3.60
4870	60-90/20-40/ 4-10/2-5	475/475/ 475/475	M	6.87	5.15	4.16	3.06
4875	70-100/20-40/ 10-20/4-10	475/475/ 475/475	N	7.05	5.28	4.27	3.14
4880	10-20/60-100/ 20-40/90-150	500/450/ 450/100	N	6.96	5.20	4.20	3.09
4895	20-40/20-40/ 50-80/80-160	500/500/ 400/50	M	6.63	4.98	4.02	2.96
4915	70-100/4-10/ 4-10/115-200	500/500/ 500/150	N	7.47	5.61	4.53	3.33
4920	4-10/4-10/ 4-10/4-10	500/500/ 500/500	K	4.80	3.62	2.90	2.13
4925	20-40/4-10/ 4-10/4-10	500/500/ 500/500	K	5.25	3.98	3.18	2.34
4930	20-40/15-30/ 10-20/10-20	500/500/ 500/500	L	6.21	4.69	3.76	2.76
4935	30-50/30-50/ 8-20/5-10	500/500/ 500/500	M	6.63	4.98	4.02	2.96

★ SIZE CODES

Code	Size	Code	Size	Code	Size
A	¾″ x 2″	G	1″ x 3½″	M	1⅜″ x 3″
B	1″ x 1½″	H	1″ x 4″	N	1⅜″ x 3½″
C	1″ x 1¾″	I	1⅜″ x 1½″	O	1⅜″ x 4″
D	1″ x 2″	J	1⅜″ x 1¾″	P	1⅜″ x 4½″
E	1″ x 2½″	K	1⅜″ x 2″	Q	1⅜″ x 5″
F	1″ x 3″	L	1⅜″ x 2½″	R	1⅜″ x 5⅛″

WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR

UNLISTED ITEMS. NO SPECIAL ORDER NUMBERS NECESSARY,

JUST USE THE MANUFACTURER'S MODEL NUMBERS.

AVEL-LINDBERG TOROIDAL POWER TRANSFORMERS

This "off-the-shelf" range of power line transformers combines the many electrical and mechanical advantages inherent in the construction of toroidal transformers in a uniform attractive package.

FEATURES:

★ Ideal magnetic circuit of toroid with no air gap gives low iron losses and higher core performance. This provides savings of up to 50% in off-load power compared with conventional bobbin-wound transformers.

★ "Gapless" core construction minimizes stray magnetic field. Reductions of 8:1 are typical.

★ Low height profile is inherent in toroidal construction—this is compatible with other components now being used in power supplies for "slimline" electronic equipment.

★ Audible noise caused by magnetostriction is considerably reduced because the toroidal core is completely enveloped within the windings.

★ The transformers are encapsulated in resin filled, tough, thermoplastic cases offering maximum protection against mechanical damage and hostile environments.

★ Easy mounting of both flexible lead and P.C.B. styles with threaded bushing molded into the center of the transformers.

★ 15 and 30VA sizes have single bushings. 50, 90 and 130VA sizes have dual bushings.

GENERAL SPECIFICATIONS:

Input 115/230V, 47 to 400 Hz. Secondary voltage tolerance within ±3% at nominal input and full load. Insulation tested between primary and secondary at 2500V rms.

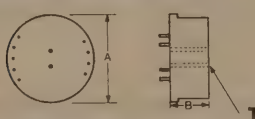
PRINTED CIRCUIT STYLE

Type	Primary Volts V	Nominal load VA	Secondary rms Volts V	Secondary rms Current A	Dimensions Dia. A In.	Dimensions Ht. B In.	Weight lbs. Typ.	Mounting	Price Net Each, Lots of 1-9	10-24	25-49	50-99
40/3030	115 + 115	15	6 + 6	1.250	2.60	1.30	0.77	8-32 Central	$13.90	$12.50	$11.26	$10.43
40/3031			9 + 9	0.830					13.90	12.50	11.26	10.43
40/3032			12 + 12	0.625					13.90	12.50	11.26	10.43
40/3033			15 + 15	0.500					13.90	12.50	11.26	10.43
40/3034			20 + 20	0.375					13.90	12.50	11.26	10.43
40/3035	115 + 115	30	6 + 6	2.500	3.25	1.40	1.30	8-32 Central	15.44	13.90	12.50	11.57
40/3036			9 + 9	1.666					15.44	13.90	12.50	11.57
40/3037			12 + 12	1.250					15.44	13.90	12.50	11.57
40/3038			15 + 15	1.000					15.44	13.90	12.50	11.57
40/3039			20 + 20	0.750					15.44	13.90	12.50	11.57
40/3040	115 + 115	50	9 + 9	2.800	3.75	1.55	2.00	2 × 8-32 spaced 0.40 in.	16.57	14.92	13.41	12.43
40/3041			12 + 12	2.100					16.57	14.92	13.41	12.43
40/3042			15 + 15	1.670					16.57	14.92	13.41	12.43
40/3043			20 + 20	1.250					16.57	14.92	13.41	12.43
40/3044			25 + 25	1.000					16.57	14.92	13.41	12.43

FLEXIBLE LEAD STYLE

40/3000	115 + 115	15	6 + 6	1.250	2.70	1.25	0.77	8-32 Central	$13.90	$12.50	$11.26	$10.43
40/3001			9 + 9	0.830					13.90	12.50	11.26	10.43
40/3002			12 + 12	0.625					13.90	12.50	11.26	10.43
40/3003			15 + 15	0.500					13.90	12.50	11.26	10.43
40/3004			20 + 20	0.375					13.90	12.50	11.26	10.43
40/3005	115 + 115	30	6 + 6	2.500	3.30	1.35	1.30	8-32 Central	15.44	13.90	12.50	11.57
30/3006			9 + 9	1.666					15.44	13.90	12.50	11.57
40/3007			12 + 12	1.250					15.44	13.90	12.50	11.57
40/3008			15 + 15	1.000					15.44	13.90	12.50	11.57
40/3009			20 + 20	0.750					15.44	13.90	12.50	11.57
40/3010	115 + 115	50	9 + 9	2.800	3.90	1.55	2.00	2 × 8-32 spaced 0.40 in.	16.57	14.92	13.41	12.43
40/3011			12 + 12	2.100					16.57	14.92	13.41	12.43
40/3012			15 + 15	1.670					16.57	14.92	13.41	12.43
40/3013			20 + 20	1.250					16.57	14.92	13.41	12.43
40/3014			25 + 25	1.000					16.57	14.92	13.41	12.43
40/3015	115 + 115	90	12 + 12	3.750	4.20	1.80	3.00	2 × 8-32 spaced 0.40 in.	22.07	22.05	18.03	16.55
40/3016			15 + 15	3.000					22.07	22.05	18.03	16.55
40/3017			20 + 20	2.250					22.07	22.05	18.03	16.55
40/3018			25 + 25	1.800					22.07	22.05	18.03	16.55
40/3019			30 + 30	1.500					22.07	22.05	18.03	16.55
40/3020	115 + 115	130	18 + 18	3.610	4.90	1.90	4.30	2 × 8-32 spaced 0.40 in.	25.17	22.66	20.40	18.88
40/3021			22 + 22	3.000					25.17	22.66	20.40	18.88
40/3022			30 + 30	2.160					25.17	22.66	20.40	18.88
40/3023			35 + 35	1.850					25.17	22.66	20.40	18.88
40/3024			40 + 40	1.620					25.17	22.66	20.40	18.88

PRINTED CIRCUIT STYLE

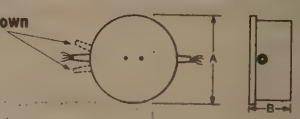


Threaded mounting bushings.

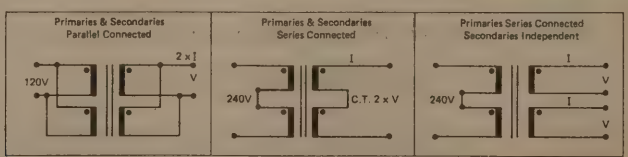
Terminal pins 0.08" dia. × 0.16" long. Located on 0.1" grid.

FLEXIBLE LEAD STYLE

Outlets for 3 amps and above shown dotted.



Terminations via flexible leads 10" long insulated with high temperature PVC.



Power Line Filters

ELIM-A-SHOCK FUSED CONNECTOR AND VOLTAGE SELECTOR



Style 1



Style 2

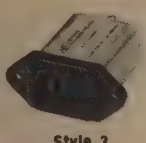
Elim-A-Shock Power Line Modules, uniquely packaged in a single compact unit; a voltage selector for six different international line voltages, a fuse for equipment protection, an IEC (International Electrotechnical Commission) power line connector and when required, an RFI filter for line noise suppression. These modules are UL recognized, CSA certified and designed to international electrical safety standards.

SPECIFICATIONS

AC Operating Voltages: 100, 115, 120, 220, 230 and 240 VAC.
Operating Current: 6 amps AC max.
Operating Frequency Range: 48-440 Hz.
Dielectric Withstanding Voltage (Both Sides Of Line To Ground): 2,250 VDC.
Leakage Current (Line To Ground): 10 μA max. at 250 VAC, 60 Hz.

Hopkins No.	Case Style	With/Without Filter	Typical Insertion Loss at 0.5 MHz	1 MHz	2.5 MHz	5 MHz	Net Each 1-99
F-65001	1	Without filter	....	....	....	....	$ 7.2
F-65003	2	With EMI filter	30	40	50	60	13.2

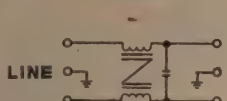
UNIVERSAL ALL PURPOSE AND MEDICAL/LOW-LEAKAGE EMI FILTERS



Style 3



Style 4



F11935 / F12034



F85104 / F85109

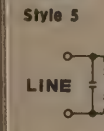
Specially designed for worldwide use in portable industrial and commercial electronic equipment where high levels of power line interference are encountered. These units offer a cost reduction by combining an effective EMI filter and an IEC (International Electrotechnical Commission) power line connector in one convenient, compact unit. Universal EMI filters, Types F11935 and F12034 are expressly designed for portable medical and dental equipment or similar applications where minimum shock hazard or leakage current is mandatory. All filters in this series are UL recognized, CSA certified and designed to international electrical safety standards.

SPECIFICATIONS

Max. Operating Voltage: 250 VAC.
Operating Frequency Range: 48-440 Hz.
Max. Leakage Current (Line To Ground):
Types F11935 and F12034: 2 μA at 115 VAC, 60 Hz; 5 μA at 250 VAC, 60 Hz
Types F85105 and F85109: 0.5 mA at 115 VAC, 60 Hz; 1.25 mA at 250 VAC, 60 Hz
Dielectric Withstanding Voltage:
Line to Ground: 2,250 VDC.
Line to Line: 1,450 VDC.
Insertion Loss (Typical):
Types F11935 and F12034: 12 dB at 150 kHz; 25 dB at 500 kHz; 28 dB at 1 thru 20 MHz.
Types F85105 and F85109: 12 dB at 150 kHz; 25 dB at 500 kHz; 32 dB at 1 MHz; 55 dB at 10 thru 20 MHz.

Hopkins No.	Case Style	Max. Line Amps	Net Each, Lots of 1-24	25-49	50-99	100-499
F11935-1	3	1	$11.86	$9.56	$8.47	$7.3
F11935-3	3	3	11.20	9.08	7.99	6.9
F11935-6	3	6	10.53	8.47	7.50	6.4
F12034-1	4	1	11.86	9.56	8.47	7.3
F12034-3	4	3	11.20	9.08	7.99	6.9
F12034-6	4	6	10.53	8.47	7.50	6.4
F85104	3	1	11.86	9.56	8.47	7.3
F85105	3	3	11.20	9.08	7.99	6.9
F85106	3	6	10.53	8.47	7.50	6.4
F85107	4	1	11.86	9.56	8.47	7.3
F85108	4	3	11.20	9.08	7.99	6.9
F85109	4	6	10.53	8.47	7.50	6.4

EXCEL-O-LINE EMI FILTERS FOR SWITCHING POWER SUPPLIES



Style 5



Style 6

F75001-F75004



F75101-F75104



F75201-F75204

Designed for use in switching power supplies, SCR and T2L circuitry where high attenuation of low frequency line-to-line interference is required. These filters also provide excellent line-to-ground noise suppression with minimal leakage current. UL recognized and built to comply with international electrical safety standards.

SPECIFICATIONS

Max. Operating Voltage: 250 VAC.
Operating Frequency Range: 50-60 Hz.
Max. Leakage Current (Line to Ground): 0.5 mA at 115 VAC, 60 Hz; 1.25 mA at 250 VAC, 60 Hz.
Dielectric Withstanding Voltage (Line To Ground): 2,250 VDC.
Insertion Loss (Typical):
Types F75001, F75004, F75101, F75104, F75201 and F75204: 10 dB at 150 kHz; 25 dB at 500 kHz; 35 dB at 1 MHz; 50 dB at 10/20 MHz.
Types F75002, F75003, F75102, F75103, F75202 and F75203: 10 dB at 150 kHz; 22 dB at 500 kHz; 28 dB at 1 MHz; 50 dB at 10/20 MHz.

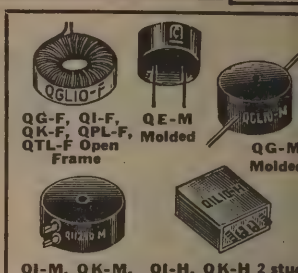
Hopkins No.	Case Style	Max. Line Amps	Net Each, Lots of 1-24	25-49	50-99	100-499
F75001	5	3	$15.75	$11.86	$10.59	$ 9.2
F75002	5	6	14.88	11.08	9.87	8.6
F75003	5	10	15.80	11.74	10.74	9.2
F75004	6	20	35.76	26.57	23.66	20.7
F75101	5	3	17.49	13.01	11.56	10.1
F75102	5	6	16.46	12.22	10.84	9.5
F75103	5	10	17.37	12.89	11.50	10.0
F75104	6	20	37.21	27.71	24.63	21.6
F75201	5	3	19.00	14.16	12.68	11.0
F75202	5	6	17.91	13.31	11.86	10.4
F75203	5	10	18.58	13.82	12.29	10.7
F75204	6	20	38.79	28.80	25.65	22.4

MICROTRAN Toroidal Inductors

ULTRA-MINIATURE TOROIDAL INDUCTORS—QE-M SERIES

Affords new application opportunities in high density packaging. Ultra miniaturized with low height design. Exceptionally high "Q" and wide frequency range. Available on special order with ±1% inductance tolerance. Frequency range of QEL Series 1 to 300 kHz; QEM, 3 to 500 kHz. Accuracy, ±2%. Molded in epoxy resin with .020" x 2" gold-plated nickel alloy leads. Size, .450" dia. x .285".

Inductance	QEL-M Series: Microtran No.	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Ea., Lots of 1-9 ★	QEM-M Series: Microtran No.	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Ea., Lots of 1-9 ★
0.5 mH	.....	.....	.....	.....	QEM05-M	2.1	20	$11.55
1 mH	QEL1-M	2.1	25	$10.50	QEM1-M	3.8	30	11.55
2 mH	QEL2-M	3.6	30	10.80	QEM2-M	6.2	35	11.85
5 mH	QEL5-M	7.3	35	11.70	QEM5-M	15.9	45	12.30
10 mH	QEL10-M	15.8	45	12.15	QEM10-M	19	50	13.35*
15 mH	QEL15-M	20	45	12.60*	QEM15-M	42	55	13.95*
25 mH	QEL25-M	32	50	13.50*	QEM25-M	88	60	15.30*
50 mH	QEL50-M	69	50	14.55*	QEM50-M	193	70	16.65*
100 mH	QEL100-M	185	70	16.65	.....	.....	.....	.....



MICRO-MINIATURE TOROIDAL INDUCTORS—QG SERIES

Frequency range of QGL Series, to 20 kHz; QGM Series, 2 to 100 kHz. Accuracy, ±2%. **QG-F:** Open frame, microcrystalline wax dipped with 4" #28 plastic leads. Size, ⅜" dia. x 9/32". **QG-M:** Molded in high temperature epoxy resin with .020" x 2" gold plated nickel alloy leads. Leads may be bent downward for plug-in printed circuit use. Size, ⅞" dia. x ¾". **QGH:** Hermetically sea on special order only ($12.50 setup charge in Lots of 1-49). S 1 1/16" dia. x 13/32". **QG-HC:** Hermetic crystal can. Special or only; prices setup charge same as QG-H Series. Size, 23/32 1 1/32" x 49/64".

QGL SERIES

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QGL5-	5 mH	2.5	30	$ 6.75	$14.40*	$10.95
QGL10-	10 mH	5	33	6.90	14.55*	11.25*
QGL15-	15 mH	8	34	7.20	14.70*	11.40*
QGL30-	30 mH	17	37	7.35	15.00*	11.55*
QGL50-	50 mH	28	40	7.50	15.30*	11.85
QGL100-	100 mH	50	42	$ 7.95	$15.75*	$12.
QGL250-	250 mH	130	46	8.70	16.20	12.
QGL500-	500 mH	290	48	9.45	16.65*	13.
QGL1000-	1.0 H	530	51	11.25	18.60*	15.
QGL1500-	1.5 H	825	53	12.90	21.00*	17.

QGM SERIES

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QGM1-	1 mH	1.4	22	$ 7.95	$14.70*	$12.00
QGM2-	2 mH	2.5	25	8.10	14.85*	12.15
QGM5-	5 mH	6	28	8.40	15.30*	12.45*
QGM10-	10 mH	12	31	8.55	15.60*	12.90
QGM15-	15 mH	18	32	$ 8.70	$15.75*	$13.0
QGM25-	25 mH	30	35	8.85	16.05*	13.3
QGM50-	50 mH	52	37	9.30	16.35*	13.6
QGM100-	100 mH	115	39	10.05	17.40*	14.7

SUBMINIATURE TOROIDAL INDUCTORS—QIL SERIES

Frequency range to 20 kHz; accuracy, ±2%. **QIL-M:** Molded in high temperature epoxy with silver plated turret lugs. Size, 1 3/16" dia. x ½". **QIL-H:** Hermetically sealed in metal case with Teflon® terminals. Size, 1 1/16" x ½" x 1 1/16". **QIL-F:** Open frame. Mic crystalline wax dipped with 4" #28 plastic leads. Size, 1" dia. x 15 ®Registered DuPont tradema

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QIL3-	3 mH	.73	36	$4.80	$11.40*	$ 9.75
QIL5-	5 mH	1.1	38	4.80	11.40*	9.75*
QIL10-	10 mH	2.1	40	4.80	11.40*	9.75
QIL15-	15 mH	3.3	42	4.95	11.55*	9.90*
QIL25-	25 mH	5.3	45	5.25	11.85*	10.05
QIL50-	50 mH	11	47	5.40	12.00*	10.20*
QIL100-	100 mH	22	49	6.00	12.60*	10.95*
QIL150-	150 mH	34	50	$ 6.15	$12.75*	$11.2
QIL250-	250 mH	55	53	6.30	12.90*	11.4
QIL500-	500 mH	95	55	7.20	13.80*	12.3
QIL1000-	1.0 H	210	57	8.70	15.30*	13.6
QIL1500-	1.5 H	335	59	10.35	17.40*	15.7
QIL2500-	2.5 H	550	61	12.45	19.35*	17.8

MINIATURE TOROIDAL INDUCTORS—QK SERIES

Frequency range of QKL Series, to 10 kHz; QKM Series, 5 to 50 kHz. Accuracy, ±2%. **QK-F:** Open frame, microcrystalline wax dipped; 4" #28 plastic leads. Size, 1¼" dia. x 5/8". **QK-H:** Hermetic with Teflon terminals. Size, 1 15/16" x 1 1/16" x 1 47/64". **QK-M:** Mold in high temperature epoxy resin; silver plated turret lugs. Si 1 3/16" dia. x ¾"; #8 clearance hole.

QKL SERIES

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QKL5-	5 mH	.62	60	$6.90	$13.65*	$12.15
QKL10-	10 mH	1.1	66	7.35	14.10*	11.40
QKL15-	15 mH	1.7	68	7.50	14.10*	12.60*
QKL25-	25 mH	2.8	72	7.50	14.25*	12.60*
QKL50-	50 mH	6	76	7.80	15.00*	13.50*
QKL100-	100 mH	11	81	7.95	15.45*	13.80
QKL150-	150 mH	17	83	8.10	15.60*	13.95*
QKL250-	250 mH	28	87	$ 8.40	$15.75*	$14.1
QKL500-	500 mH	63	91	8.85	16.35	14.7
QKL1000-	1.0 H	110	96	9.45	16.80*	15.3
QKL1500-	1.5 H	175	98	10.35	18.15*	16.5
QKL2500-	2.5 H	275	103	10.95	18.75*	17.1
QKL5000-	5 H	645	106	12.60	20.40*	18.6
QKL10,000-	10 H	1175	112	13.65	21.45*	19.6

QKM SERIES

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QKM2-	2 mH	.45	52	$8.25	$15.00*	$13.50
QKM5-	5 mH	1.1	58	8.70	15.45*	13.80*
QKM10-	10 mH	2.5	62	8.85	15.60*	14.10
QKM25-	25 mH	6.5	70	9.30	16.20*	14.40*
QKM50-	50 mH	11	74	9.45	16.50*	14.85*
QKM100-	100 mH	25	79	$ 9.75	$16.80*	$15.3
QKM250-	250 mH	65	87	10.65	17.85*	16.2
QKM500-	500 mH	115	92	11.40	18.45*	16.8
QKM1000-	1.0 H	250	97	12.15	19.35*	17.7

HIGH-Q TOROIDAL INDUCTORS—QPL SERIES

Frequency range to 10 kHz; accuracy, ±2%. **QPL-F:** Open frame, microcrystalline wax dipped; 4" #24 leads. Size, 1 3/16" dia. x 7/8". **QPL-H:** Hermetically sealed with Teflon terminals. Size, 1 1/16" x 1 1/16" x 2 1/16". **QPL-M:** Molded in high temperature epoxy res silver plated turret lugs. Size, 2" dia. x 1".

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QPL25-	25 mH	1.5	100	$10.20	$21.90	$16.50
QPL50-	50 mH	2.5	105	10.35	21.90*	16.65
QPL100-	100 mH	6	110	10.50	22.20*	16.80
QPL250-	250 mH	15	115	10.65	22.20*	17.10*
QPL500-	500 mH	25	120	10.80	22.20*	17.10
QPL1000-	1.0 H	60	125	11.10	22.80	17.70*
QPL1500-	1.5 H	90	130	11.85	22.80*	17.85*
QPL2500-	2.5 H	150	133	$12.15	$23.40*	$18.3
QPL5000-	5.0 H	350	138	12.90	24.00*	18.9
QPL7500-	7.5 H	525	140	13.65	24.60*	19.5
QPL10,000-	10 H	600	142	13.95	25.20*	19.8
QPL15,000-	15 H	900	146	14.40	25.50*	20.4
QPL25,000-	25 H	1500	150	15.75	26.70*	21.6

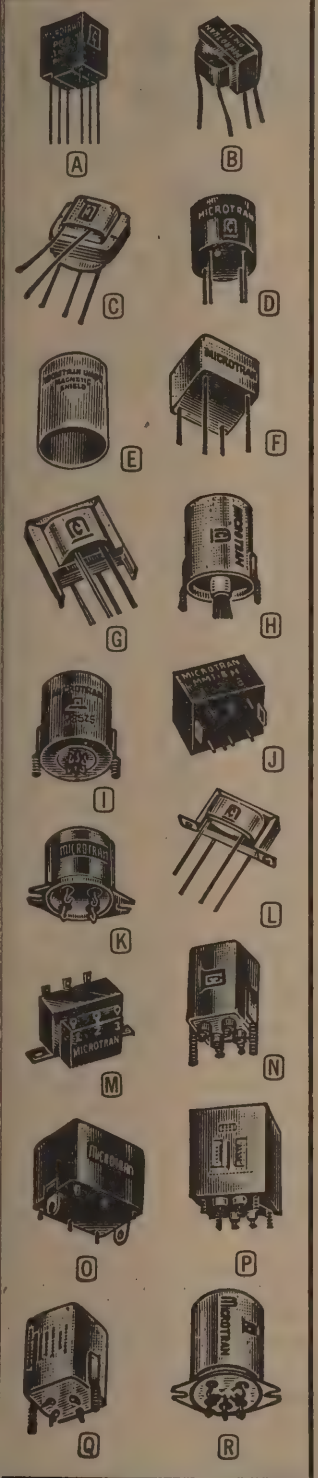
HIGH-Q TOROIDAL INDUCTORS—QTL SERIES

Frequency range to 15 kHz; accuracy, ±2%. **QTL-F:** Open frame, microcrystalline wax dipped; 4" #24 leads. Size, 2 1/16" dia. x 1". **QTL-H:** Hermetic, Teflon terminals. Size, 2 1/16" x 1 1/16" x 2 1 **QTL-M:** Molded in epoxy resin. Size, 2 1/16" dia. x 1 3/16".

Microtran No.†	Inductance	Typ. DCR, Ohms	Typ. Dist. Cap., pF	Net Each, Lots of 1-9 ★ -F	-H	-M
QTL25-	25 mH	0.85	127	$18.45	$31.50*	$34.20
QTL50-	50 mH	1.5	136	18.60	31.50*	34.20*
QTL100-	100 mH	2.8	144	19.20	31.80*	34.65*
QTL150-	150 mH	3.9	149	20.10	31.80*	35.25*
QTL250-	250 mH	7	156	20.25	32.10*	35.40*
QTL500-	500 mH	15	164	21.15	33.00*	36.90
QTL1000-	1.0 H	27	173	22.20	33.60*	37.80
QTL1500-	1.5 H	40	177	$24.00	$34.20*	$38.7
QTL2500-	2.5 H	70	184	25.50	35.40*	40.2
QTL5000-	5 H	140	192	26.10	36.90*	42.0
QTL10,000-	10 H	270	200	27.15	38.25*	43.5
QTL15,000-	15 H	430	205	29.40	40.80*	45.3
QTL25,000-	25 H	850	212	32.10	43.35*	48.6
QTL50,000-	50 H	1500	221	34.65	45.60*	51.1

★ Quantity pricing: 10-49, less 10%; 50-99, less 16⅔%; 100-249, less 33⅓%. Write or phone for prices over 249. †Order by comple Microtran Number (QGL5-F). *Not stocked. Available on short order. In 1-249 quantity, add **$25.00** lot set-up charge.

MICROTRAN Audio Transformers



PICO MINIATURE TRANSFORMERS—PM SERIES

PM-M (Fig. A): Epoxy molded finish; gold plated leads, 0.020" x ¾". Frequency response ±2 dB, 300 Hz to 100 kHz (PM3 and PM5, to 45 kHz). Power level given for 15% max. distortion, except PM35, 20% and PM37, 25%. Size, .410" x .465" x .310" max. Wt., 0.1 oz. MIL type TF5R21ZZ. **PM-F (Fig. B):** Open frame, resin impregnated, 4" #30 plastic leads. Size, .250" x .375" x .406" max. Wt. .05 oz. MIL type TF6R21ZZ.

Microtran No.†	Application	Impedance Primary	Impedance Secondary	Pri. DC mA*	DCR, Ohms Pri.	DCR, Ohms Sec.	Power Level, mW	Net Each, 1-9★ -M	Net Each, 1-9★ -F
PM3-	Input	200K CT	1K CT	0	5300	110	10	$15.60	....
PM5-	Input	200K	1K	0	5300	110	10	15.00	....
PM7-	Interstage	50K CT	1K CT	0	3300	75	10	16.65	....
PM9-	Interstage	50K	1K/250‡	0	3300	75	10	15.75	....
PM11-	Interstage	25K CT	1K CT	0.5	1700	110	40	15.60	....
PM13-	Interstage	25K	1K/250‡	0.25	1700	110	40	14.70	....
PM15-	Interstage	25K	1K	0.25	1700	110	40	13.95*	$7.35
PM17-	Isolation	10K CT	10K CT	1	1000	1300	50	15.15	....
PM19-	Driver	10K CT	2K CT	1	1000	300	50	13.50	....
PM21-	Driver	10K	2K/500‡	0.5	1000	300	50	14.85	....
PM23-	Driver	10K CT	1200 CT	1	1050	280	50	14.70	....
PM25-	Driver	10K	1200/300‡	0.5	1050	280	50	14.85	....
PM27-	Driver	10K	1200	0.5	1050	280	50	12.90*	7.35
PM29-	Driver	10K CT	500 CT	1	1050	80	50	14.70	....
PM31-	Isolation	2500	2500 CT	1	250	325	50	12.60	7.05
PM33-	Output	1500 CT	600	3	170	95	50	12.60	7.35*
PM34-	Output	600 CT	600 CT	3	75	105	50	12.75	7.50
PM35-	Output	500	50	3	60	8	50	12.75	6.45
PM36-	Output	500	500/125‡	3	72	85	50	12.60	7.20
PM37-	Output	120 CT	3.2	10	16	0.75	50	11.85	6.90*
PM38-	Output	300 CT	600	7	41	98	50	12.00	7.20
PM39-	Audio Choke	6 H		2	1800	.....	.....	10.80*	6.30*
PM40-		3.5 H		2	700	.....	.....	10.35	5.70*
PM41-		.3 H		4	43	.....	.....	9.75	5.40*
PM90-	Magnetic shield Mumetal® slip-on can; 20 dB shld.							1.80	....

*Unbalanced. ‡Split. ®Registered Allegheny-Ludlum Steel Corp. trademark.

ULTRA-MINIATURE TRANSISTOR TRANSFORMERS—UM SERIES

Frequency Response: ±2 dB, 300–10K Hz. Leads supplied, 4" #27 color-coded. Power levels given for 7½% max. distortion. **UM-F (Fig. C):** Size, ⅝" x ⅝" x 1½". Weight, 0.08 oz. MIL type TF6R21ZZ (Inser: MIL No. from table). **UM-M (Fig. D):** Size, ½" dia. x ½", with 1" leads. Weight, 0.14 oz. MIL type TF5R21ZZ.

Microtran No.†	Application	Impedance Primary	Impedance Sec.	Unbal. Pri., DC mA	DCR, Ohms Pri.	DCR, Ohms Sec.	Level at 1 kHz mW	Net Each, 1-9★ -F	Net Each, 1-9★ -M
UM21-	Input	100K	1K	0	1900	135	70	$7.35	$11.25
UM22-	Driver	20K	1K	0.5	1100	100	300	7.05*	11.55*
UM23-	Driver	20K	1200 CT	0.5	1100	110	300	7.20	11.70
UM24-	Output	1K	50	3	65	10	500	5.70	10.20*
UM25-	Output	400	50	3	35	5	500	5.70	10.20
UM26-	Output	400	11	3	35	1.5	500	5.70*	10.20*
UM27-	Output	400 CT	11	6	35	1.5	500	6.00*	10.35*
UM28-	Choke	10 H, 0 DC;	8 H, 0.5 mA		650	.....	.....	4.65	8.25*
UM29-	Interstage	600 CT	600 CT	7	45	60	400	7.35	11.55
UM30-	Choke	1.5 H, 0 DC;	.7 H, 2 mA		100	.....	.....	4.50*	8.25
UM31-	Interstage	10K CT	1200 CT	2	850	120	500	7.50*	11.55
UM32-	Output	1500 CT	600	5	135	65	500	6.75*	10.65
UM33-	Output	1K CT	600	6	80	65	500	6.75*	10.65
UM34-	Driver	10K CT	600 CT	2	850	40	500	7.50	11.55
UM35-	Isolation	15K CT	15K CT	1	930	1210	300	7.50	12.15
UM36-	Driver	20K CT	800 CT	0.5	1100	80	500	7.50	12.15
UM37-	Driver	10K	2K CT	1	850	200	500	7.20	11.10
UM39-	Interstage	2.5K CT	600 CT	2	250	50	500	7.35	11.55*
UM90	Magnetic shield Mumetal slip-on can; 20 dB shld. (Fig. E)							2.70	.....

VERI-MINIATURE TRANSISTOR TRANSFORMERS—VM SERIES

Frequency Response: ±2 dB, 200–10K Hz. Leads supplied, 4" #27 color-coded. Power levels given for 7½% max. distortion. **VM-M (Fig. F):** For plug-in printed circuit applications. Cast epoxy resin provides high resistance. Size, ½" x ⅞" x ½". Weight, 0.2 oz. MIL type TF5R21ZZ (Insert MIL No. from table). **VM-FPB (Fig. G):** Plug-in tab mounted channel. Size, 1⅞" x 1⅝" x 7/16". Weight, 0.2 oz. MIL type TF6R21ZZ.

Micro. No.†	Application	Impedance Primary	Impedance Secondary	DCR, Ohms Pri.	DCR, Ohms Sec.	Level, mW	Net, 1-9★ -FPB	Net, 1-9★ -M
VM1-	Input	50	600, 1.5 mA	7	90	15	$5.10	$ 9.60
VM2-	Input or intrstg.	200K	600, 1.0 mA	3000	110	2.5	6.00	10.50
VM3-	Interstage	25K	600, 1.0 mA	720	45	2.5	5.46	9.75
VM4-	Input or intrstg.	200K	1200, .72 mA	3100	165	5	6.15*	10.50
VM5-	Interstage	50K	600, 1.0 mA	830	55	5	5.40	9.90
VM6-	Interstage	100K	1200‡ .72 mA	2000	150	5	6.15*	10.20
VM7-	Output	500, 3.5 mA	3.4	50	0.5	15	5.10	9.60
VM8-	Output	1250, 2.0 mA	3.4	135	0.5	15	4.95	9.60
VM9-	Output	1250, 2.0 mA	50	135	6.5	15	4.95*	9.60
VM10-	Interstage	2500, 1.5 mA	2500 CT	225	215	3	5.70	9.90
VM11-	Choke	20 H, 0 mA;	12 H, .5 mA	1000	.....	.....	4.50*	8.40*
VM12-	Interstage	20K	1000, .75 mA	625	85	5	5.40*	9.75
VM13-	Interstage	20K	1000‡ .75 mA	625	85	5	5.55*	9.60
VM14-	Interstage	600‡, 7 mA	600 CT	50	65	15	5.85	10.20
VM15-	Isolation	50K CT	50K CT	2000	2600	5	7.35	11.10
VM16-	Driver	500‡ 7.5 mA	250 CT	50	25	15	5.85	10.20*
VM17-	Interstage	10K CT	5K CT	400	300	5	6.15*	10.35
VM90	Magnetic shield Mumetal slip-on can; 20 dB shld.						2.25	.....

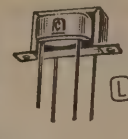
‡CT.

Quantity pricing: 10–49, less 10%; 50–99, less 16⅔%; 100–249, less 33⅓%. Write or phone for prices over 249. †Order by complete Microtran Number (PM3-M). *Not stocked. Available on short order. In 1-249 quantity, add $25.00 lot set-up charge.

MICROTRAN AUDIO AND POWER TRANSFORMERS


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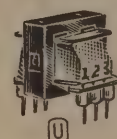
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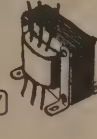
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MICRO-MINIATURE AUDIO AND TRANSISTOR TRANSFORMERS—MM AND MMT SERIES

MM-M (Fig. J): Molded, for plug-in printed circuit applications. MIL Type TF5R21ZZ. Size, ⅞″ x 2⁵⁄₃₂″ x 1⁷⁄₃₂″ with ⁵⁄₃₂″ pins, .020″ dia. Weight, ½ oz. **MM-H (Fig. K):** Gray enamel finish MIL Type TF4R21YY. Size, 1⁵⁄₁₆″ dia. x 1¹⁄₁₆″. Weight, ¾ oz.
MM-FB (Fig. L): Open frame with channel. Available with plug-in tab channel or without channel on special order. MIL Type TF6R21ZZ. Size, 1³⁄₁₆″ x 1³⁄₃₂″ x 1⁵⁄₃₂″, plus tabs. **MM-CM (Fig. M):** Contour molded on special order only; for mtg. on top of chassis. Size, 1⅛″ x 5⁄₁₆″ x 2⁵⁄₃₂″. Prices on request.

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. Unbal. DC mA	Oper. Level, dBm	Freq. Resp. ±2 dB, Hz	Net Each, Lots of 1-9 ★ -FB	-H	-M
MM1-	Input	200/50	250K/62.5K	0	4	200–10K	$7.20	$12.45*	$10.95*
MM2-	Interstage 3:1	10K	90K	0	4	150–10K	7.35*	12.75*	11.10*
MM3-	Plate to line	10K	200	3	20	150–10K	6.30*	11.70*	9.90
MM4-	Output	30K	50	1	20	150–10K	6.30*	11.70*	9.60*
MM5-	Reactor 50 H at 1 mADC	4.7K ohms DC Res.					6.00*	10.80	9.45*
MM6-	Output	100K	60	0.5	20	250–10K	6.45	11.70*	9.90*
MM7-	Output	30K	1200	0.5	20	200–10K	6.15	11.55*	9.90*
MMT1-	Line to base	600	600	8	22	200–15K	5.10	10.35	8.55
MMT3-	Coll. to base or line	50K	600	0.7	20	200–15K	6.45	11.85*	10.35*
MMT4-	P-p coll. to p-p base	50K CT	600 CT	1.4	20	200–15K	7.35	13.50*	11.70
MMT5-	Coll. to speaker	50K	6	1	20	200–15K	6.45	11.85*	10.35*
MMT7-	Coll. to p-p base	25K	1200 CT	1	20	200–15K	6.45	12.00	10.35
MMT8-	P-p coll. to p-p base	50K CT	1200 CT	1.4	20	200–15K	7.05*	13.20*	11.40*
MMT9-	Line to p-p base	600 CT	1200 CT	16	22	200–15K	5.85	12.30	10.05
MMT10-	Coll. to base	25K	600	1	20	200–15K	6.30	11.55*	9.75
MMT11-	P-p coll. to p-p base or line	4K CT	600 CT	5	28	200–15K	6.30	12.30*	10.20
MMT12-	Coll. to speaker	2K	3.4	5	28	200–15K	5.25*	10.50*	9.30*
MMT13-	Output p-p coil. to speaker	4K CT	3.4	5	28	200–15K	5.85	11.70*	9.90*
MMT16-	Coll. to p-p base	10K	1500 CT	1	20	200–15K	6.00	11.70*	10.35*
MMT17-	P-p coll. to p-p base	10K CT	200 CT	6	20	200–15K	7.05	13.20*	11.10*
MMT18-	P-p coll. to p-p base	25K CT	1200 CT	2	20	200–15K	6.75	12.90*	10.95
MMT19-	Coll. to p-p base	2500	2500 CT	2	23	200–15K	6.30	11.85*	9.90
MMT21-	P-p coll. to p-p base	4K CT	600/150 split	5	28	200–15K	7.05	13.35*	11.40
MMT25-	P-p coll. to p-p base	7500 CT	600 CT	4	22	200–15K	6.30	12.45*	10.80*
MMT26-	Line to base	600 CT	600 CT	16	22	200–15K	5.85	12.30	10.05
MMT27-	P-p coll. to p-p base	25K CT	600 CT	2	20	200–15K	6.75	12.90*	11.10*
MMT28-	P-p coll. to p-p base	10K CT	1500 CT	2	20	200–15K	6.30	12.45*	11.10*
MMT29-	Driver/Isolation	10K CT	10K CT	2	20	200–15K	6.45	12.90	11.10
MMT30-	P-p coll. to p-p base	7500 CT	1200 CT	4	22	200–15K	6.30	12.45*	11.10*
MMT31-	P-p coll. to p-p base	2K CT	500 CT	10	28	200–15K	6.30	12.15*	10.50
MMT32-	Line to p-p base	600 CT	1.2K/300 split	16	22	200–15K	6.90	13.35*	11.40*
MMT33-	Line to p-p base	600 CT	600/150 split	16	22	200–15K	6.90	13.50	11.40
MMT35-	P-p coll. to p-p base	CT	150/37.5 split	2	20	200–15K	7.20*	13.65*	11.70*

60 Hz CONTROL/POWER SUPPLY TRANSFORMERS

For low voltage, high current applications such as filament supplies, relays, silicon rectifiers, etc. Primary 105/115/125 VAC.

Micro. No.	Fig.	Secondary VAC	Secondary AAC	Rectifier VDC▪	Rectifier VDC‡	Size, Inches W. x D. x H.	Net Ea., 1-9 ★
M8242	X	6.3 CT	.6	1.9	3.8	2⅜ x 1⅜ x 1½	$ 9.30*
M8243	X	6.3 CT	2.0	1.9	3.8	3¼ x 1⅝ x 1¹¹⁄₁₆	13.65*
M8286	X	6.3 CT	6.0	1.9	3.8	3¹¹⁄₁₆ x 2¼ x 2¼	15.00
M8287	X	12.6 CT	3.0	4.7	9.4	3¹¹⁄₁₆ x 2¼ x 2¼	14.25
M8247ǂ	Y	12	4.0	9.9§	19.8§	4⅛ x 3 x 3⅝	25.20*
		12	4.0	9.9§	19.8§		
M8244	Y	12.6 CT	2.0	10.5§	21§	3⅜ x 2⅞ x 3½	18.30*
		12.6	2.0	10.5§	21§		
M8222	Y	18.5 CT	3.0	7.4	14.8	3⅜ x 2½ x 3⅝	16.95
M8288	Y	26 CT	2.5	10.8	21.6	3 x 2⅜ x 2¾	15.75
M8245	X	28 CT	.6	11.7	23.4	3¼ x 2¼ x 1¹⁵⁄₁₆	12.30
M8255	Y	30 CT	2.5	12.5	25	3⅝ x 2⅝ x 3¹¹⁄₁₆	21.90
M8223	Y	35 CT	3.0	14.5	29	4⅛ x 3 x 3⅝	23.70
M8289	X	40 CT	.1	17	34	2⅜ x 1⅝ x 1½	11.10
M8290	X	40 CT	.3	17	34	2¹³⁄₁₆ x 1⅝ x 1⅝	10.80
M8291	X	40 CT	.75	17	34	3¹¹⁄₁₆ x 2¼ x 2¼	14.25
M8246	Y	49 CT	2.5	21	42	4½ x 3¼ x 4¼	32.40
M8224	Y	70 CT	1.0	30	60	3⅝ x 2⅝ x 3¹¹⁄₁₆	24.60
M8256	Y	80 CT	.6	35	70	3 x 2⅝ x 2¾	21.00

Full wave ▪CT; ‡bridge. §Series. ǂSec. connected series, 24 V at 4 A; parallel, 12 V at 8 A.

60 Hz ISOLATION AND POWER TRANSFORMERS

With center tap for use in either full wave bridge or full wave CT.

Micro. No.	Fig.	Volts Input	Volts Output	AAC	VA	Size, Inches W. x D. x H.	Net Ea., 1-9 ★
M8294	X	115	115 CT	.0085	1	2⅛ x 1⅛ x 1¼	$ 8.10
M8295	X	115	115 CT	.030	3.5	2¹³⁄₁₆ x 1⅛ x 1⅝	16.50
			12.6 CT	.25	3.15		
			12.6	.25	3.15		
M8251	X	115	115 CT	.13	15	3¼ x 1⅝ x 1¹¹⁄₁₆	15.60
M8296	Z	115▪	115 CT	.35	40	4 x 2¼ x 2¼	18.60
M8278	Y	115▪	115 CT	.9	100	3¾ x 3 x 3¹⁵⁄₁₆	29.10

▪Primary 105/115/125 volts.

*Not stocked. Available on short order. In 1-249 quantity, add $25.00 lot set-up charge.

DECI-MINIATURE PC TRANSFORMERS (FIG. U)

Primary and secondary windings may be interchanged to obtain varied matching requirements such as input, interstage, output and isolation. Designed for printed circuits; frequency response: ±2 dB, 200–15,000 Hz. **Size:** 1¹⁵⁄₁₆″ w. x 1¹⁵⁄₁₆″ d. x ¾″ h.

Micro. No. DCM	Impedance Primary	Impedance Secondary	Unbal. Pri. mADC	Oper. Level dBm	Net Each, 1-9 ★
1-PC	25K CT	1200 CT	2	18	$5.70
2-PC	15K CT	15K CT	3	19	6.00
3-PC	15K CT	600 CT	3	19	5.55
4-PC	10K CT	5000 CT	4	20	6.00
5-PC	10K	2500/625 split	2	20	6.00
6-PC	10K CT	1500 CT	4	20	5.70
7-PC	5000 CT	80K CT	6	15	6.60
8-PC	4000 CT	1200 CT	6	20	5.25
9-PC	4000 CT	600 CT	6	20	5.10
10-PC	4000	600/150 split	3	20	5.55
11-PC	2500 CT	2500 CT	8	20	5.40
12-PC	2500	2500/625 split	4	20	5.25
13-PC	2500 CT	625 CT	8	20	4.95
14-PC	2500 CT	200 CT	8	20	4.80
18-PC	600 CT	50K CT	16	20	6.15
19-PC	600	8000/2000 split	8	20	5.25
20-PC	600 CT	200 CT	16	20	4.65
21-PC	600 CT	600 CT	16	20	4.65
22-PC	250 CT	600 CT	25	20	4.65

DECI-MINIATURE PC CHOKES (FIG. U)

For audio frequency, servo mechanisms, computer applications, etc. **Size:** 1¹⁵⁄₁₆″ w. x 1¹⁵⁄₁₆″ d. x 1¹⁵⁄₁₆″ h. Open frame.

Micro. No.	Inductance, Henries At 0 mA	Inductance, Henries At Rated Cur.	DCR, Ohms	Net Each, 1-9 ★
DCM51-PC	10	5 at 3 mA	300	$4.05
DCM52-PC	5	2 at 5 mA	155	3.60
DCM53-PC	2.5	1 at 7 mA	75	3.45

*Larger quantity discounts available on request.

MICROTRAN Audio Transformers

MINIATURE TRANSISTOR AND AUDIO TRANSFORMERS—M AND MT SERIES

-M (Fig. O): Molded, for plug-in printed circuit use. Cast oxy resin provides highest resistance to temperature extremes. IL Type TF5R21ZZ (Insert MIL No. from table). Max. e, 1½" x ⅛" x ⅛". Weight, 1¾ oz. **M-AG (Fig. Q):** Enclosed modified MIL-T-27B AG case with compression sealed ceramic minals. MIL Type TF4R21YY. Max. Size, 1" x 1" x 1⅜". eight, 2¾ oz. **M-H (Fig. R):** Hermetically sealed with high mpression glass terminals, gray enamel finish. Available on ecial order with .120" holes. MIL Type TF4R21YY. Size, " dia. x 1⅛" max. Weight, 1¼ oz. **M-A (Fig. S):** Aluminum se with 2-56 screws. MIL Type TF6R21ZZ Size, .875" dia. ⅛". Weight, 1.25 oz. **M-FB (Fig. L):** Open frame with channel. Available with plug-in tab channel or without channel on special order. MIL Type TF6R21ZZ. Size, 1¾" x 1⅜" x 2⅞" max., plus tabs. Weight, 1.13 oz. **M-P (Fig. T):** Octal plug-in type in sealed plastic housing. MIL Type TF6R21ZZ. Size, 1⅜" dia. x 1⅛". Wt., 2 oz. **M90 Shield (Fig. E):** 25 dB magnetic shield for Type M-A. Two clearance holes on 1⅛" centers. **M-PC (Fig. U):** Open frame PC with terminals molded into bobbin to maintain accurate dimensions for PC board. MIL Type TF6R21ZZ. Size, ⅛" x 1⅛" x 1"; terminals ⅛" below bobbin. Wt., 1.2 oz. **M-CM (Fig. M):** Contour molded on special order only; for mtg. on top of chassis. Size, 1⅝" x ⅞" x ⅞". Prices on request.

MINIATURE AUDIO AND TRANSISTOR TRANSFORMERS—M AND MT SERIES

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. DC mA*	Oper. Level, dBm	Freq. Resp. ±2dB, Hz	Net Each, Lots of 1-9★ -A	-AG	-FB	-H	-M	-P	-PC
1-♦	Mike or line to 1 grid	‡	50K	0	5	20–20K	$14.85	$17.70*	$8.85	$16.05	$16.05	$13.65*	....
2-♦	Mike or line to 2 grids	‡	50K CT	0	5	20–20K	15.60	18.90*	9.45	16.95*	16.95*	14.70*	....
3-♦	Dynamic mike to 1 grid	7.5/30	50K	0	5	20–20K	14.25	16.95*	8.55*	15.00*	15.45*	13.35*	$8.05*
4-	Single plate to 1 grid	15K	60K	0	6	20–15K	12.75*	14.55	7.50	13.35	13.50*	12.45*	7.20
5-	Single plate to 1 grid	15K	60K	4	14	200–20K	11.85*	13.50*	6.45	12.30*	12.45*	12.15*	6.45*
6-	Single plate to 2 grids	15K	95K CT	0	5	20–15K	13.80	15.60*	8.25	14.25	14.55*	12.90*	7.65
7-	Single plate to 2 grids	15K	95K CT	4	11	200–20K	13.05*	14.70*	7.35	13.35*	13.65*	12.45*	6.90*
8-	Single plate to line	15K	‡	0	8	20–20K	14.55	17.40*	8.55	15.75	15.75*	14.25	8.25*
9-	Single plate to line	15K	‡	4	21	150–20K	13.50*	16.35*	7.50	14.70*	14.70*	13.20*	7.20*
10-♦	Push-pull plates to line	30K, p-p	‡	0	8	30–50K	15.15*	18.60*	9.90	16.65*	16.65*	14.40*	....
11-♦	Crystal mike to line	50K	‡	0	5	20–20K	15.00	18.00*	9.00	16.20*	16.20*	14.25*	....
12-	Mixing and matching	§	‡	0	8	20–20K	13.80	17.25	7.65	15.15	15.15	13.05*	7.35*
13-	Reactor	300 H at 0 DC, 50 H at 3 mA; 6K DCR					9.60*	12.15*	6.15	11.25*	11.40	10.95*	6.15*
14-	50:1 mike to grid	200	½ meg	0	9	80–3K	12.90*	14.55*	7.50	13.35	13.50*	12.30*	7.80*
15-	10:1 plate to grid	10K	1 meg	0	11	100–2500	13.05*	14.70*	7.65*	13.50*	13.65*	12.30*	7.35
90	Magnetic shield Mumetal® slip on can; 25 dB shielding						2.25	.....	....	....	....	....	....
T1-	Line to base	600	600	10	23	200–15K	11.40	13.20	6.15	12.00	12.15*	10.95	5.70
T2-	Coll. to p-p base 2N57	100	10 CT/ 40 CT	100	27	200–20K	12.30*	15.15*	6.30	13.50*	13.50*	11.70*	6.00*
T3-	Coll. to base or line	50K	600	3	20	300–15K	11.85*	13.50*	6.45	12.30*	12.45*	11.25*	6.15
T5-♦	Coil to speaker	50K	6	3	20	300–15K	11.70*	13.35*	6.30*	12.15*	12.30*	11.25*	....
T6-♦	Coll. to p-p base	100K	1200 CT	1.4	17	200–15K	13.05*	14.70*	7.35*	13.35*	13.65*	12.15*	....
T7-♦	Coll. to p-p base	25K	1200 CT	3	22	200–15K	12.15*	13.80	6.45	12.45*	12.90*	11.70*	....
T8-♦	P-p coll. to p-p base	50K CT	1200 CT	3	20	300–15K	12.60*	15.45*	7.05	13.50*	13.80*	12.15*	....
T9-	Line to p-p base	600 CT	1200 CT	4	23	200–15K	12.30*	15.00	6.60	13.65*	13.50	11.70	6.00
T10-♦	Coll. to base	25K	600	3	22	200–15K	11.10*	12.90*	5.85	11.70*	11.85*	10.95*	....
T11-	P-p coll. to p-p base	4K CT	600 CT	3	32	200–15K	11.70	14.40*	6.00	12.90*	12.90	11.70*	6.00
T12-	Output coll. to spkr.	2K	3.4	10	32	200–15K	9.90*	12.00*	4.95	10.80*	10.95*	10.20*	4.65
T13-	P-p coll. to spkr.	4K CT	3.4	3	32	200–15K	11.10*	12.90*	5.40	11.40	11.85*	10.80*	4.95*
T14-	Coll. to spkr. 2N179	400	10	50	25	200–20K	10.20*	12.00*	4.95	10.80	10.95	10.20*	4.65*
T15-	P-p servo output 2N57	500 CT	210	30	27	300–20K	10.65*	12.30*	4.95*	10.95*	11.70*	10.65*	4.65*
T18-♦	P-p coll. to p-p base	25K CT	1200 CT	6	22	200–15K	12.60*	15.45*	7.05	13.50*	13.80	12.15*	....
T20-♦	P-p coll. to p-p base	50K CT	▲	3	20	300–15K	14.40*	17.25*	8.40*	15.60*	15.60*	13.50*	....
T21-	P-p coll. to p-p base	4K CT	■	3	32	200–15K	13.35	16.20*	7.35	14.55	14.55	12.15*	7.20*
T22-♦	Line to p-p base	■	1200 CT	4	23	200–15K	13.35*	16.20*	7.35	14.55*	14.55*	12.45*	7.05*
T23-	P-p coll. to servo	250 CT	1000	10	30	200–15K	11.40*	13.65*	5.85*	11.85*	12.15*	11.10*	5.25*
T24-	Coll. to p-p base	2500	600 CT	10	32	200–15K	10.95*	12.60*	5.25	11.10	11.70	10.65	4.95*
T25-	P-p coll. to p-p base	7500 CT	600 CT	8	32	200–15K	12.00	14.70*	6.30	12.90*	13.20	11.70*	6.00
T26-	Line to p-p base	600 CT	600 CT	20	23	200–15K	12.15	14.85	6.45	13.05	13.35	11.70	6.00
T29-	P-p coll. to servo	1600 CT	450	15	30	200–15K	10.95*	12.60*	5.25*	11.25*	11.70*	10.65*	4.95*
T30-	P-p coll. to servo	250 CT	500	10	30	200–15K	11.40*	13.20*	5.85	11.85*	12.15*	11.10*	5.40*
T33-	Line to p-p base	■	■	20	23	200–20K	14.25*	17.55*	8.10	15.60	15.60	13.35	7.50
T34-	P-p coll. to p-p base	10K/ 2500 split	2000/500 split	4	20	200–20K	13.95*	17.55*	8.10	15.60*	15.60*	13.35*	7.80*
T35-	Hybrid tel circuit	600	600 CT/ 600 CT	0	5	40–20K	13.95	17.40*	7.80	15.45	15.90	13.20	8.25
T36	Bdcst line matching	600 CT	600 CT	0	15	50–15K‡	11.70*	16.05*	6.45*	12.45*	12.90*	10.95*	6.00

nbalanced. ‡50/250/600 CT. §50/250 CT. ▲1200/300 split. ■600/150 split. ♦Not available in -PC type. ‡±0.5 dB.

®Allegheny-Ludlum Steel Corp. trademark.

SUBMINIATURE AUDIO AND TRANSISTOR TRANSFORMERS—SM AND SMT SERIES

1-AF (Fig. N): MIL-T-27B-AF modified case; compression aled ceramic terminals; gray enamel finish. MIL Type TF4R-YY. Size, ¾" x ¾" x 1⅛" max. with two 4-40NC-2 spade mtg. lts. Wt., 1⅛ oz. **SM-H (Fig. K):** Hermetically sealed; high mpression glass terminals; gray enamel finish. MIL Type F4R21YY. Size, 1⅝" dia. x 1⅝" h. Weight, 1 oz. **SM-FB (Fig. L):** Open frame with channel. With plug-in tab mounted channel or without channel on special order. MIL Type TF6R21ZZ. Size, 1⅜" x 1⅜" x ¾", plus tabs. Wt., 0.750 oz. **SM-M (Fig. O):** Molded, for plug-in PC applications. MIL Type TF5R21ZZ. Size, 1½" x ⅛" x ¾" max. Wt., 1½ oz. **SM-CM (Fig. M):** Contour molded on special order. Prices on request.

Microtran No.†	Application	Impedance Pri.	Impedance Sec.	Pri. DC mA*	Oper. Level, dBm	Freq. Resp. ±2 dB, Hz	Net Each, Lots of 1-9★ -AF	-FB	-H	-M
1-	Input	200/50	250K/62.5K	0	6	80–10K	$15.45*	$8.55	$13.95*	$16.35*
2-	Interstage 3:1	10K	90K	0	8	100–10K	15.15*	8.25	13.65*	16.05*
3-	Plate to line	10K	200	3	21	150–10K	14.40*	7.50*	12.90*	15.30
4-	Output	30K	50	1	21	150–10K	14.55*	7.65*	13.05*	15.45*
5-	Reactor 50 H at 1 mADC	3K ohms	DCR				12.45*	6.45	11.55*	13.80*
6-	Output	100K	60	0.■	21	150–10K	15.15*	8.25*	13.65*	16.05*
T1-	Line to base	600	600	9	23	200–15K	13.50	6.45	12.00*	14.25*
T3-	Coll. to base or line	50K	600	1	20	300–15K	14.55*	7.65*	13.05*	15.45*
T4-	P-p coll. to p-p base	50K CT	600 CT	2	20	200–15K	.....	8.55*	13.95*	16.95*
T5-	Coll. to speaker	50K	6	1	20	300–15K	14.40*	7.50*	12.90*	15.30*
T7-	Coll. to p-p base	25K	1200 CT	1.5	20	200–15K	15.00*	7.80	13.65*	15.90
T8-	P-p coll. to p-p base	50K CT	1200 CT	2	20	200–15K	.....	8.55*	14.70*	16.95*
T9-	Line to p-p base	600 CT	1200 CT	18	23	200–15K	.....	7.80	13.95*	16.20*
T10-	Coll. to base	25K	600	2	20	200–15K	14.40*	7.50*	12.90*	15.30*
T12-	Output coll. to speaker	2K	3.4	5	30	200–15K	13.50*	6.45*	12.00*	14.25*
T13-	Output p-p coll. to speaker	4K CT	3.4	5	30	200–15K	13.95*	6.60*	12.60*	14.70*
T16-	Coll. to p-p base	10K	1500 CT	1	23	200–15K	15.30*	8.10*	13.95*	16.20*
T17-	P-p coll. to p-p base	10K CT	200 CT	6	20	200–15K	.....	8.10	14.25*	16.50
T18-	P-p coll. to p-p base	25K CT	1200 CT	3	20	200–15K	.....	8.40	14.55*	17.40*
T19-	Coll. to p-p base	2500	2500 CT	5	26	200–15K	15.00*	7.80	13.65*	15.90
T26-	Line to base	600 CT	600 CT	18	23	200–15K	.....	7.50	13.35*	15.90
T36-	Interstage	2.5K CT	2.5K/625 split	10	26	200–15K	.....	8.40*	14.85*	16.95*

nbalanced.

Quantity pricing: 10–49, less 10%; 50–99, less 16⅔%; 100–249, less 33⅓%. Write or phone for prices over 249. †Order by complete crotran Number (M1-A). *Not stocked. Available on short order. In 1-249 quantity, add $25.00 lot set-up charge.

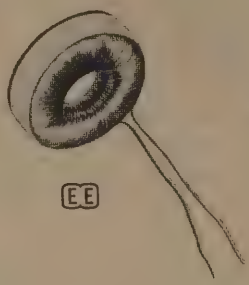
MICROTRAN Audio Transformers

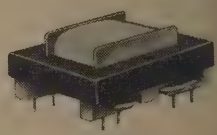
TELEPHONE COUPLING TRANSFORMERS—DESIGNED TO MEET FCC PART 68



U


BB


EE


GG

For interconnect of voice/data modem terminals to telephone lines. Permits optimum use of voice-grade telephone lines for broadband computer modems over a wide dynamic signal range with minimum distortion. PC construction. **Frequency Response:** 300–3500 Hz ±0.5 dB. **Level:** −45 dBm to +7 dBm. **Longitudinal Balance:** Per FCC 68.310. **Distortion:** 0.5%, max. **Impedance Matching:** ±10% over entire freq. range. **Return Loss:** 26 dB min. Send for Engineering Bulletin F232.

Micro. Number	Application	Impedance Primary	Impedance Secondary	Net Ea., 1-9★
T1104	Coupling	600	600	$ 6.60
T2104	Coupling	600	600	4.95
T2106	Coupling	600 CT	600 CT	5.25
T2108	Coupling	600	900	4.95
T2110	Coupling♦	900	900	5.25
T4113	Coupling†	900/600 @ 60/75 mA D.C.	600 Split	9.15
T5114	Coupling	600	600 split at 75 mADC	10.80
T5115	Coupling	600	600 split at 120 mADC	10.45
T6112	Coupling♦	600	900, 600 at 110 mADC	15.75
T2220	Hybrid§	600, 4W	600/600	6.45
T3220	Hybrid§	600, 4W	600/600	7.20
T4220	Hybrid§	600, 4W	600/600 @ 60 mADC	12.30
T5220	Hybrid§	600, 4W	600/600 @ 100 mADC	21.00
T2316	Bridging	4000	600	5.10
T4415	Holding Coil	2.0 H at 60 mA, 1.3 H at 100 mADC, 180 ohms		5.85
T5415	Holding Coil	1.4 H at 120 mA, split 180 ohms		10.05
T7410	Holding Coil	1.0 H at 0 mA, 0.8 H at 25 mADC, 225 ohms		8.70
T8410	Holding Coil	1.0 H at 0 mA, 0.8 H at 40 mADC, 113 ohms		9.45

Series	Width	Depth	Height	Weight	Fig.
T1000	¾″	1 9/32″	7/16″	.4 oz.	U
T2000	49/64″	1 1/16″	2 3/32″	.5 oz.	U
T3000	1 1/64″	6 1/64″	2 7/32″	1.2 oz.	U
T4000	1 15/32″	1 5/32″	1 1/4″	3.5 oz.	U
T5000	1 25/32″	1 15/32″	1 1/8″‡	6.6 oz.	GG
T6000•	1 61/64″	1 15/32″	1 41/64″	9.5 oz.	BB
T7400	1″ dia.	.....	1 3/32″	.75 oz.	EE
T8400	1 1/4″ dia.	.....	5/8″	2.0 oz.	EE

•Channel frame mtg., 2 3/8″ mtg. ctr. §Two required for hybrid op. †Level −15 to +7 dBm. ‡T5114, 1 1/16″ ht. ♦E.S.S.

MICROPHONE/TRANSDUCER INPUT TRANSFORMERS



S
Single Threaded Stud Mounting



SP
Printed Circuit Mounting

For professional sound studios, broadcast mixing consoles and control and instrument amplifiers. Equivalent to imported studio grade transformers. Wide bandwidth, broad frequency response, and high efficiency and low distortion. Power level range up to 0 dBm. Negligible hum pickup due to nested Mu-metal shields and gapless core construction. Ease of mounting and orientation for minimum hum pickup. Polarizing voltage connection for condenser microphones. Subminiature size permits close spacing to adjacent circuitry. Low microphonics. Additional ratings available on special order. **Frequency Response:** 30–20,000 Hz, ±0.5 dB. **Shielding:** Double Mu-Metal. **Size:** Suffix S—3″ color coded leads, 5/8″ d. x 1 3/16″ h., 5/16″ d. Stud; Suffix SP-¾″ d. x 1 1/16″ h., 7-.040 pins 1/8″ h.

Microtran Number	Turns Ratio Pri.-Sec.	Primary	Secondary	Pri. Imp. @ 50 Hz	Net Each, Lots of 1-9★ -S	Net Each, Lots of 1-9★ -SP
S101-†	1:20	12.5	5K	100	$15.15	$18.15
S105-†	1:15	200	45K	2,000	17.40	22.65
S107-†	1:15	200/50 Split	45K	2,000	19.20	24.60
S108-†	1:10	200	20K	2,000	14.85	19.05
S111-†	1:7.1	200	10K	2,000	14.40	19.20
S116-†	1:5	200	5K	2,000	13.95	18.15
S118-†	1:5	200/50 Split	5K	2,000	16.20	20.40
S126-†	1:1	600 CT	600	3,750	14.70	19.20
S130-†	1:1	10,000	10K	100K	13.80	18.00
S100-FB	Right angle mounting bracket for S100-S Series.				.81	.....

†Order by complete part number. **S** for stud mount, **SP** for printed circuit.

LOW LEVEL AND MICROPHONE INPUT TRANSFORMERS

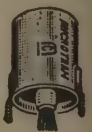
Broadcast fidelity type. Double Mu-metal shielded. No. M8030 designed to replace Ampex No. 1733-1. No. M8032 designed to replace RCA No. M112399. No. M8033 also mates with RCA amplifiers. **Power Level:** +5 dBm. **Magnetic Shielding:** 65 dB except No. M8027, 25 dB.

Microtran No.	Fig.	Impedance Pri.	Impedance Sec.	Freq. Resp.	Dimensions, Inches	Net Each 1-9★
M8027	AA	200	40K	50–20K	2 3/4 x 1 3/16 x 7/8	$12.30
M8030	T	200/50 CT	50K	20–20K	2 1/8 x 1 1/8 dia.	26.25
M8031	T	600 CT/150	50K	30–20K	2 1/8 x 1 1/8 dia.	26.85
M8032	T	250 CT	50K	20–20K	2 1/8 x 1 1/8 dia.	25.95*
M8033	T	50 CT	50K	20–20K	2 1/8 x 1 1/8 dia.	25.95*
M1-S	H	50/250 CT/ 600 CT	50K	20–20K	1 1/2 x 1 1/16 dia.	18.45



AA


T


H

★**Quantity pricing schedule: 10-49 less 10%; 50-99 less 16⅔%; 100-249 less 33⅓%. Write or phone for prices over 249.** *Not stocked. Available on short order. In 1-249 quantity, add **$25.00** lot set-up charge.

MICROTRAN MINIATURIZED MILITARY AND INDUSTRIAL TRANSFORMERS


S


T


U

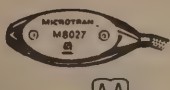

V


W


X


Y


Z

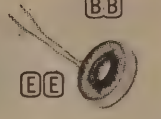


AA


BB


CC


DD


EE

LOW LEVEL CHOPPER INPUT TRANSFORMERS (FIG. H)

Efficiently transfer 30–500 Hz signals to instrument amplifiers. Signal level range, 0.5 μV to 0.5 V. Resin impregnated. Three Mumetal®, two copper shields; 90 dB shielding. Size, 1⅜" dia. x 1²⁵⁄₃₂" h. with 6–32 x ⅜" studs on 1½" ctrs. Wt., 5 oz.

Microtran No.	Turn Ratio Full Pri.–Full Sec.	½ Pri.–Full Sec.	Full Pri. Hy▪	Full Pri. Imped.▪	DC Resis. Full Pri.	DC Resis. Full Sec.	Net Each, 1-9★
M8025	1:7.7	1:15.4	17.5	6600	365Ω	4140Ω	19.95
M8026	1:3.2	1:6.4	60	22,500	455Ω	3500Ω	19.95
M8052	1:4.53	1:9.06	90	34,000	760Ω	5220Ω	19.95
M8053‡	1:0.5	1:1	140	53,000	920Ω	653Ω	19.95
M8112	1:0.5	1:1	450	80,000	2300Ω	1600Ω	19.95*

▪At 0.5V, 60 Hz. ‡Sec. CT. ®Reg. Allegheny-LudlumSteel Corp.TM

DC TO DC CONVERTER TRANSFORMERS—BLOCKING OSCILLATOR TYPE

aminated series blocking oscillator type. pproximate repetition rate, 400 Hz. All e **Fig. L** except M8149, **Fig. U**; M8051, g. **Q**; M8073, **Fig. C.** DC output voltage r all but M8073 is given for transformer ed in blocking oscillator circuit with ngle capacitor-input rectifier. DC input rrent, output current and output voltage Model M8073 depend on load and bias; equency varies from 100 to 2800 Hz. Fig. L types are open frame units meeting MIL designation TF6RX09ZZ; Fig. Q type is enclosed unit meeting MIL designation TF4RX09YY.

Microtran No.	Turns Ratio HV: Coll.: Feedback	Input V DC	Input DC mA	Output V DC	Output DC μA	Size, Inches W. x D. x H.	Mtg. Ctr., In.	Net Each, 1-9★
M8149	600:12:1	3	20	1000	25	6⅛x1⅛x 2⅞	.....	$ 9.30
M8050	600:12:1	3	20	1000	25	1⅝x1 1⅛x 2⅞	1⅜	8.10
M8051	600:12:1	3	20	1000	25	1 x1 x1⅜	1⅜	15.90*
M8073	44:1:1	4	2–15	425–500	50▪	⅜x ⅜ x ⅝	.....	7.20
M8074	65.5:.33:1	3	45	535	90	1⅝x1 1⅛x 2⅞	1⅜	8.10

▪Maximum.

DC TO DC CONVERTER TRANSFORMERS—SWITCHING TYPE

rovide improved reliability and efficiency er vibrator and rotary power converters. pproximate repetition rate, 800 Hz. Full ave and CT loads may be simultaneously awn, but total VA output should not be ceeded for continuous-duty operation. l are **Fig. P** except M8072 and M8120, g. **L.** Transistors listed are for reference ly; user must verify that max. ratings ll not be exceeded. M8034/35/36 on spe- al order only, add $25.00 lot setup charge.

LAMINATED SERIES

Microtran No.	Input VDC	Output VA	Transistors Suggested	DC Output FW V	DC Output mA†	DC Output CT FW V	DC Output CT FW mA	Size, Inches W. x D. x H.	Mtg. Ctrs., In. ML	Mtg. Ctrs., In. MW	MIL Case	Net Each, 1-9★
M8034	28	125	2N174	500	250	250	420	2⅜x2¾x 3¹³⁄₁₆	2⅛	1¾	GA	60.00*
M8035	13.6	125	2N442	500	250	250	420	2⅜x2¾x 3¹³⁄₁₆	2⅛	1¾	GA	60.00*
M8036	13.6	40	2N442	450	90	225	155	2⅛x2⅛x 3⅛	1¹¹⁄₁₆	1⅞	FA	58.50*
M8072	2.7	190‡	2N1307	480‡	400‡	.....	.....	1⅝x1 1⅛x 2⅞	1⅜	....	ZZ	10.80
M8120	28	190‡	2N3417	480‡	400‡	.....	.....	1⅝x1 1⅛x 2⅞	1⅜	....	ZZ	11.40

TOROIDAL SERIES (FIG. V)

M8121▲I	5	3	2N6121	190	15	.....	.....	⅜x 1½	.120•	....		$7.80
M8122▲♦	5	5	2N3055	▪	175	15	350	⅞x 1⅞	.140•	....		27.00
M8132▲	13.8	30	2N3055	▪	1000	15	2000	1¼x ¾	.140•	....		24.90
M8133▲	28	30	2N3055	▪	1000	15	2000	1¼x ¾	.140•	....		24.90
M8113	13.8	50	2N278	28	1750	14	3500	2⅛x1¼	.170•	....		47.70
M8114	28	50	2N375	28	1750	14	3500	2⅛x1¼	.170•	....		49.35
M8115	13.8	5	2N376	500	10	250	20	1¼x ¾	.140•	....		28.95
M8116	13.8	50	2N278	70	700	35	1400	2⅛x1¼	.170•	....		45.00
M8117	28	5	2N375	500	10	250	20	1¼x ¾	.140•	....		30.45
M8118	28	50	2N375	70	700	35	1400	2⅛x1¼	.170•	....		49.35

ermit conversion of low-voltage direct rrent to higher voltages for operating obile electronic equipment. Operating equencies between 1500 and 5000 Hz. ase is epoxy molded with terminals and earance hole for mounting. DC output own is based on 1 volt drop per rectifier.

Output when used with half-wave capacitor-input rectifier. †Bridge. ‡μA. §mW. ♦Dia. x ht. •Clearance hole dia. ▲Operating frequencies etween 1500 and 20 kHz. ▪±15 or 30. IFig. DD. ♦Fig. W.

ALL CONVERTER TRANSFORMERS SUPPLIED WITH SCHEMATIC AND COMPONENT VALUES

HERMETICALLY SEALED POWER SUPPLY TRANSFORMERS (FIG. P)

or silicon rectifier circuitry and filament applications. Hermeti- ally sealed. Primary, 105/115/125 V. Output voltage given for sistive or inductive loads, based on approx. 1 V drop per rec- ifier. MIL Type TF4R03XX (add MIL case type from table).

60 Hz TYPE

Micro. No.	Secondary VAC	Secondary AAC	Rect. Cir. VDC▪	Rect. Cir. VDC†	Size Inches W. x D. x H.	MIL Case	Net. 1-9★
18042	6.3 CT	.6	1.9	3.8	1⅝ x1⅝ x2¾	AJ	22.80
18043	6.3 CT	2	1.9	3.8	2⅛ x2⅛ x2½	FB	33.60
18086	6.3 CT	6	1.9	3.8	2⅜ x2¾ x3¹³⁄₁₆	GA	41.40*
18087	12.6 CT	3	4.7	9.4	2⅜ x2¾ x3¹³⁄₁₆	GA	39.00
18044	12.6	2	10.5§	21§	3⅛ x3⅛ x3⅞	JB	42.60
	12.6 CT	2	10.5§	21§			
18022	18.5 CT	3	7.4	14.8	3⅛ x3⅛ x3⅞	JB	46.20*
18088	26 CT	2.5	10.8	21.6	2⅝ x3⅛ x4¼	HA	40.80
18152	28 CT	.15	11.7	23.4	1⅝ x1⅝ x2⅝	AJ	25.05
18045	28 CT	.6	11.7	23.4	2⅛ x2⅝ x3⅛	FA	36.60
18055	30 CT	2.5	12.5	25	3⅛ x3⅛ x4⅛	JA	46.80*
18023	35 CT	3	14.5	29	3⅜ x3¹³⁄₁₆x5¼	KA	53.40
18089	40 CT	.1	17	34	1⅝ x1⅝ x2⅜	AJ	24.90
18090	40 CT	.3	17	34	1¹³⁄₁₆x1¹³⁄₁₆x2¾	EA	30.30*
18091	40 CT	.75	17	34	2⅜ x2¾ x2¹³⁄₁₆	GB	29.40*
18046	49 CT	2.5	21	42	3¹¹⁄₁₆x4¼ x5⅛	LA	55.20
18024	70 CT	1	30	60	3⅛ x3⅛ x4¼	JA	46.80
18056	80 CT	.6	35	70	2⅝ x3⅛ x4¼	HA	45.00

400 Hz TYPE

Micro. No.	Secondary VAC	Secondary AAC	Rect. Cir. VDC▪	Rect. Cir. VDC†	Size, Inches W. x D. x H.	MIL Case	Net, 1-9★
M8063‡•	2.85	.045	1.5§	3	1¹⁄₁₆ dia. x 1¼	YY	12.45
	2.85	.045					
M8064‡	6.3 CT	.6	1.9	3.8	1⅛ x1⅛ x1¾	AH	18.30
M8075‡•	6.3 CT	.3	1.9	3.8	1⅛ dia. x 1⅛	YY	12.15
M8076‡	12.6 CT	.3	4.7	9.4	1⅛x1⅛ x1¾	AH	18.30
M8039	12.6	.8	10.5§	21§	1⅝ x1⅝ x2⅜	AJ	29.85
	12.6 CT	.8	10.5§	21§			
M8077	12.6	2	10.5§	21§	2¼ x2¼ x3⅛	FA	43.50*
	12.6 CT	2	10.5§	21§			
M8038	12.6	.3	16§	32§	1⅝ x1⅝ x2⅜	AJ	24.75
	12.6	.3	16§	32§			
	12.6	.3	16§	32§			
M8018	18.5 CT	1	7.4	14.8	1¹³⁄₁₆x1¹³⁄₁₆x2¾	EA	31.50
M8019	18.5 CT	3	7.4	14.8	2⅛ x2⅝ x3⅛	FA	39.60
M8065	26 CT	1.5	10.8	21.6	1¹³⁄₁₆x1¹³⁄₁₆x2¾	EA	36.00
M8066	26 CT	3	10.7	21.5	2⅛ x2⅝ x3⅛	FA	40.20
M8079	26 CT	4	10.8	21.6	2⅝ x3⅛ x4¼	HA	34.20
M8067	30 CT	1.5	12.5	25	2⅛ x2⅝ x2½	FB	42.00*
M8020	35 CT	3	14.5	29	2⅜ x2¾ x3¹³⁄₁₆	GA	45.45
M8068	40 CT	.2	17	34	1⅝ x1⅝ x2⅜	AJ	20.25
M8041‡	50 CT	.25	21.5	43	1⅛ x1⅛ x1¾	AH	18.30
M8080	50 CT	.2	21.5	43	1⅝ x1⅝ x2¾	AJ	22.20
M8069‡•	60 CT	.003	26	52	1⅛ dia. x 1⅛	YY	15.15*
M8070‡	65 CT	.170	28.4	56.8	1⅛ x1⅛ x1¾	AH	19.35
M8081‡•	65 CT	.030	28.4	56.8	1⅛ dia. x 1⅛	YY	14.55*
M8021	70 CT	1	30	60	2⅛ x2⅝ x3⅛	FA	50.70
M8071	80 CT	.90	35	70	2⅛ x2⅝ x3⅛	FA	46.05*

Full-wave CT. †Full-wave bridge. ‡Primary 115 V only. §Series. Fig. K.

Quantity pricing: 10-49, less 10%; 50-99, less 16⅔%; 100-249, less 33⅓%. Write or phone for prices over 249. *Not stocked. Avail- ble on short order. In 1-249 quantity, add **$25.00** lot set-up charge.

MICROTRAN PC POWER TRANSFORMERS

PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS

For construction of low-cost, miniaturized, regulated and unregulated DC power supplies for latest solid-state digital and linear circuitry. Permits packaging flexibility unobtainable with prepackaged power supplies. Low-profile, miniaturized construction permits close stacking of PC boards. Precision spaced molded-in terminals. Primaries are 115 V, 50/60 Hz except as noted.







Microtran Number	Parallel Connected VAC	Parallel Connected AAC	Series Connected VAC	Series Connected AAC	Output Current mADC	Fig.	Net Each, Lots of 1-9★
+5 VDC SINGLE OUTPUT FOR UNREGULATED SUPPLIES							
PC6205	4.50	0.18	9.0 CT	0.09	75	U	$ 9.90
PC6505	4.50	0.36	9.0 CT	0.18	150	U	7.50
PC6605	4.50	1.10	9.0 CT	0.55	450	BB	7.95
PCL6605*	4.50	1.10	9.0 CT	0.55	450	CC	11.10
PC6705	4.50	2.00	9.0 CT	1.00	825	BB	7.95
PC6905	4.50	5.00	9.0 CT	2.50	2000	U	10.50
+8.5 VDC SINGLE OUTPUT FOR +5 V IC REGULATED SUPPLIES							
PC6210	7.75	0.12	15.5 CT	0.06	50	U	$ 9.90
PC6510	7.75	0.22	15.5 CT	0.11	90	U	7.50
PC6610	7.75	0.64	15.5 CT	0.32	265	BB	7.95
PCL6610*	7.75	0.64	15.5 CT	0.32	265	CC	11.10
PC6710	7.75	1.20	15.5 CT	0.60	500	BB	7.95
PC6910	7.75	3.10	15.5 CT	1.55	1300	U	10.50
±15 VDC DUAL OUTPUT FOR UNREGULATED SUPPLIES							
PC6211	12.0	0.07	24 CT	0.035	22	U	$10.05
PC6511	12.0	0.13	24 CT	0.065	40	U	7.50
PC6611	12.0	0.40	24 CT	0.200	120	BB	7.95
PCL6611*	12.0	0.40	24 CT	0.200	120	CC	11.10
PC6711	12.0	0.76	24 CT	0.380	220	BB	7.95
PC6911	12.0	1.90	24 CT	0.950	550	U	10.50
±20 VDC DUAL OUTPUT FOR ±15 V IC REGULATED SUPPLIES							
PC6214	16.0	0.05	32 CT	0.025	15	U	$10.35
PC6514	16.0	0.10	32 CT	0.050	30	U	7.50
PC6614	16.0	0.30	32 CT	0.150	90	BB	7.95
PCL6614*	16.0	0.30	32 CT	0.150	90	CC	11.10
PC6714	16.0	0.56	32 CT	0.280	165	BB	7.95
PC6914	16.0	1.40	32 CT	0.700	410	U	10.50

Microtran No.	Secondary Number 1 VAC†	Secondary Number 1 AAC	Secondary Number 2 VAC†	Secondary Number 2 AAC	DC Output 1 V	DC Output 1 mA	DC Output 2 V	DC Output 2 mA	Fig.	Net Each, Lots of 1-9★
+8.5 AND ±20 VDC TRIPLE OUTPUT FOR +5 V & ±15 V IC REGULATED SUPPLIES										
PCT6531	15.5	0.048	32	.020	+8.5	40	±20	12	U	$ 7.95
PCT6631	15.5	0.140	32	.058	+8.5	115	±20	35	BB	8.40
PCL6631*	15.5	0.140	32	.058	+8.5	115	±20	35	CC	11.40
PCT6731	15.5	0.300	32	.100	+8.5	250	±20	60	BB	8.40
PCT6931	15.5	0.690	32	.298	+8.5	575	±20	175	U	10.95

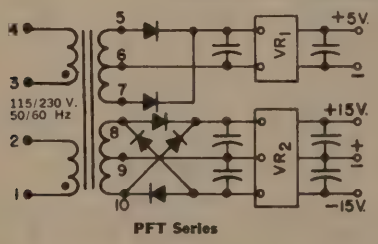
*Primary 115/230 V, 50/60 Hz. †Center tapped.

Microtran No.	Secondary Number 1 VAC†	Secondary Number 1 AAC	Secondary Number 2 VAC†	Secondary Number 2 AAC	DC Output 1 V	DC Output 1 mA	DC Output 2 V	DC Output 2 mA	Fig.	Net Each, Lots of 1-9★
+5 AND ±15 VDC TRIPLE OUTPUT FOR UNREGULATED SUPPLIES										
PCT6230	9.0	0.048	24	.020	+5	40	±15	12	U	$11.25
PCT6530	9.0	0.072	24	.032	+5	60	±15	20	U	7.95
PCT6630	9.0	0.240	24	.080	+5	200	±15	50	BB	8.40
PCL6630*	9.0	0.240	24	.080	+5	200	±15	50	CC	11.40
PCT6730	9.0	0.480	24	.160	+5	400	±15	100	BB	8.40
PCT6930	9.0	1.200	24	.440	+5	1000	±15	275	U	10.95

Microtran Number	Approx. Watts	Fig.	Dimensions, Inches W.	Dimensions, Inches D.	Dimensions, Inches H.	Wt. Oz.
PC6200/PCT6200	1	U	1 1/64	1 3/8	27/32	2.3
PC6500/PCT6500	1½	U	1 43/64	1 5/32	1 11/64	3.2
PC6600/PCT6600†	4½	BB	1 45/64	1¼	1 25/64	6.5
PCL6600	4½	CC	1 51/64	1 13/32	1 3/16	6.6
PC6700/PCT6700‡	7½	BB	1 61/64	1 15/32	1 41/64	9.5
PC6900/PCT6900§	24	U	1 43/64	2¼	1 11/32	12.0

†2″ mtg. ctrs. ‡2 3/8″ mtg. ctrs. §PC6900-FB mtg. bracket on special order.

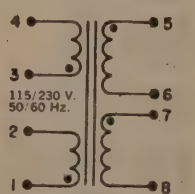
FLAT STACK® PRINTED CIRCUIT POWER TRANSFORMERS



PFT Series



FF



PF6 & PF12 Series
(PF12—Secondaries C.T.)

Series	Dimensions, Inches L.	Dimensions, Inches W.	Dimensions, Inches H.	Wt. Oz.	Fig.
PF6	1⅞	1 3/16	0.850	7	FF
PF12	2½	2	1.065	11	FF
PFT12	2½	2	1.065	11	FF

LOW PROFILE CONSTRUCTION

PF SERIES

For PC board, solid-state power, control, and instrumentation applications. Available in two sizes: 6 VA types 0.85″ high for 1″ card spacing; 12 VA types 1.065″ high for 1¼″ card spacing. Hum-bucking semi-toroidal construction. Dual primaries for 115/230 VAC, 50/60 Hz. High isolation for low leakage applications. Low capacity coupling minimizes line noise and false triggering.

Microtran Number	Parallel Connected VAC	Parallel Connected AAC	Series Connected VAC	Series Connected AAC	Net Ea., Lots of 1-9★
PF6 SERIES—6 VA					
PF6-10	5.0	1.2	10.0 CT	0.6	$9.30
PF6-12	6.3	0.9	12.6 CT	0.45	9.30
PF6-16	8.0	0.7	16.0 CT	0.35	9.30
PF6-24	12.0	0.5	24.0 CT	0.25	9.45
PF6-34	17.0	0.34	34.0 CT	0.17	9.45
PF6-56	28.0	0.2	56.0 CT	0.1	9.75
PF12 SERIES—12 VA					
PF12-10	5.0	2.4	10.0 CT	1.2	$11.40
PF12-12	6.3	1.8	12.6 CT	0.9	11.40
PF12-16	8.0	1.4	16.0 CT	0.7	11.40
PF12-24	12.0	1.0	24.0 CT	0.5	11.70
PF12-34	17.0	0.68	34.0 CT	0.34	11.70
PF12-56	28.0	0.4	56.0 CT	0.2	12.00

PFT SERIES

For PC board, solid-state power, microprocessor logic and op amp application. DC outputs of ±22 (secondary No. 2) and +8.75 (secondary No. 1) volts are intended as inputs to IC voltage regulators. Primaries are dual for 115/230 volts, 50/60 Hz.

Microtran Number	Secondary 1 VAC	Secondary 1 AAC	Secondary 2 VAC	Secondary 2 AAC	Net Ea., Lots of 1-9★
PFT12 SERIES—12 VA					
PFT12-35	16.0 CT	0.36	35.0 CT	0.15	$12.30

★Quantity pricing schedule: 10-49 less 10%; 50-99 less 16⅔%; 100-249, less 33⅓%. Write or phone for prices over 249.

MICROTRAN POWER TRANSFORMERS AND INDUCTORS

PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS

esigned for use in latest solid state circuitry for such applications power supplies, control equipment and instrumentation. Pro-de voltage step-down and isolation from power line at relatively w power levels. Power ratings range from 1.5 to 7.5 VA in 60 Hz cies, from .325 to 4 VA in 400 Hz series, yet units are small ough for optimum miniaturization. Precision spaced plug-in rminals provide fixed mounting centers, usually found only in pensive molded transformers. Constructed in accordance with MIL-T-27 Grade 6, class R; class S available on special order Dual secondaries can be parallel connected to double the current rating or series connected to double the voltage rating of one winding; series connection also provides center tap. All models have 115 V primary, except PC2500, PC2600, and PC2700 which have 115/230 V. Series PC4300, PC4400, PC6500, and PC2500 are **Fig. U**; Series PC6600, PC6700, PC2600 and PC2700 are **Fig. BB.**

Series	Approx. Watts	W. x D. x H. Max.	Wt., Oz.
PC4300	.325	4⅜" x 1⅛" x 2⅜"	0.5
PC4400	4	1¼" x 6¼" x 1½"	1.2
PC2500	1.5	1²⁵⁄₆₄" x 1²⁵⁄₆₄" x 3.2	
PC6500	1.5	1²⁵⁄₆₄" x 1½" x 1²⁵⁄₆₄"	3.2
PC2600	4.5	1⁴⁵⁄₆₄" x 1¼" x 1³⁷⁄₆₄"	6.5
PC6600	4.5	1⁴⁵⁄₆₄" x 1¼" x 1³⁷⁄₆₄"	6.5
PC2700	7.5	1⁴⁵⁄₆₄" x 1¹⁵⁄₃₂" x 1⁵³⁄₆₄"	9.5
PC6700	7.5	1⁴⁵⁄₆₄" x 1¹⁵⁄₃₂" x 1⁵³⁄₆₄"	9.5

SERIES PC4300—400 Hz

Microtran Number	Secondary Volts Parallel Connected	Series Connected	Net Each, Lots 1-9 ★
PC4304	3.15 at .1 A	6.3 CT at .05 A	$5.85
PC4312	12.6 at .026 A	25.2 CT at .013 A	6.00
PC4316	28 at .012 A	56 CT at .006 A	6.00
PC4320	35 at .01 A	70 CT at .005 A	6.15

SERIES PC4400—400 Hz

PC4408	6.3 at .60 A	12.6 CT at .30 A	$6.45
PC4412	12.6 at .30 A	25.2 CT at .15 A	6.45
PC4416	28 at .14 A	56 CT at .07 A	6.60
PC4424	40 at .10 A	80 CT at .05 A	6.75
PC4428	58 at .066 A	116 CT at .033 A	6.90
PC4432	115 at .010 A, 12.6 at .150 A		7.20

SERIES PC6500—50/60 Hz

PC6506	6.3 V CT at .250 A (Single Secondary)		$7.20
PC6512	12.6 at .120 A	25.2 CT at .060 A	7.50
PC6524	40 at .040 A	80 CT at .020 A	7.50
PC6528	58 at .026 A	116 CT at .013 A	7.65

SERIES PC6600—50/60 Hz

PC6608	6.32 at .70 A	12.6 CT at .35 A	$7.50
PC6616	28 at .156 A	56 CT at .078 A	7.65
PC6624	40 at .110 A	80 CT at .055 A	7.65
PC6628	58 at .066 A	116 CT at .033 A	7.65
PC6632	115 at .010 A, 12.6 at .150 A		7.65

SERIES PC6700—50/60 Hz

Microtran Number	Secondary Volts Parallel Connected	Series Connected	Net Each, Lots 1-9 ★
PC6708	6.3 at 1.2 A	12.6 CT at .60 A	$7.65
PC6712	12.6 at .6 A	25.2 CT at .30 A	7.65
PC6715	20 at .37 A	40 CT at .185 A	7.65
PC6716	28 at .27 A	56 CT at .135 A	7.65
PC6724	40 at .18 A	80 CT at .090 A	7.65
PC6728	58 at .130 A	116 CT at .065 A	7.65
PC6732	115 at .025 A, 12.6 at .250 A		7.65

115/230 VOLTS DUAL PRIMARY TYPES

SERIES PC2500—50/60 Hz

Microtran Number	Secondary Volts Parallel Connected	Series Connected	Net Each, Lots 1-9 ★
PC2506	6.3 V CT at .250 A (Single Secondary)		$9.15
PC2512	12.6 at .120 A	25.2 CT at .060 A	9.45
PC2524	40 at .040 A	80 CT at .020 A	9.60
PC2528	58 at .026 A	116 CT at .013 A	9.75

SERIES PC2600—50/60 Hz

PC2608	6.3 at .70 A	12.6 CT at .35 A	$10.95
PC2616	28 at .156 A	56 CT at .078 A	11.10
PC2624	40 at .110 A	80 CT at .055 A	11.10
PC2628	58 at .066 A	116 CT at .033 A	11.25
PC2632	115 at .020 A, 12.6 at .150 A		11.40

SERIES PC2700—50/60 Hz

PC2708	6.3 at 1.2 A	12.6 CT at .60 A	$10.80
PC2712	12.6 at .6 A	25.2 CT at .30 A	11.10
PC2715	20 at .37 A	40 CT at .185 A	11.25
PC2716	28 at .27 A	56 CT at .135 A	11.40
PC2724	40 at .18 A	80 CT at .090 A	11.40
PC2728	58 at .130 A	116 CT at .065 A	11.55
PC2732	115 at .025 A, 12.6 at .250 A		11.85

50/60 Hz STEP-DOWN AUTOTRANSFORMERS (FIG. Z)

onvert 220/240 to 110/120 VAC, 50/60 Hz. Equipped with econdary standard receptacle. With 6-ft. UL Recognized line cord, aked enamel finish.

Micro-tran No.	Capacity, Watts	Size, Inches W.	D.	H.	Mounting Centers	Wt., Lbs.	Net Ea., 1-9 ★
I1552	80	3²³⁄₃₂	2½	2²⁵⁄₃₂	3⅛	3.5	$15.00
I1556	100	3½	2²⁵⁄₃₂	3½	1⅜ x 2½	4	20.70
I1553	150	3½	2²⁵⁄₃₂	3½	2¼ x 2¾	5	23.70
I1555	250	3²⁵⁄₃₂	3¼	3²⁵⁄₃₂	2¹¹⁄₁₆ x 2½	6	31.20
I1559	350	3½	3²⁵⁄₃₂	4⅝	2⁷⁄₁₆ x 3	7	36.60
I1558	500	4²⁵⁄₃₂	3²⁵⁄₃₂	4⅝	3⅜ x 3	12	44.40
I1551	750	5½	4²⁵⁄₃₂	5⅛	3¼ x 3½	16	54.60
I1557	1000	7	4²⁵⁄₃₂	5⅛	5¼ x 3½	25	69.00
I1554	1500	8	4²⁵⁄₃₂	5⅛	6¼ x 3½	29	82.50
I1550■	2000	8½	4¾	6	6⁵⁄₁₆ x 3⁷⁄₁₆	37	153.00

Secondary supplied with 1 ft. #14-2 wire stripped cable.

LOW VOLTAGE FILTER INDUCTORS (FIG. X)

Windings may be connected in series or parallel for varied inductive requirements. Tested at 1500 volts. Open construction.

Micro-tran No.	Series Connected Ind., H	ADC	DCR Ohms	Parallel Connected Ind., H	ADC	DCR Ohms	Mtg. Ctrs., Inches	Net Ea., 1-9 ★
I8198	3.5	.050	200	.875	.10	50	1¾	$6.75
I8199	1.0	.15	65	.25	.30	16	2	7.65
I8200	.5	.3	30	.125	.6	7.5	2⅜	9.00*
I8201	.32	.6	16	.08	1.2	4	2¹¹⁄₁₆	9.90
I8202■	.2	1.0	4	.05	2.0	1	2¹¹⁄₁₆x2⅛	16.95
I8203■	.07	2.5	.84	.0175	5.0	.21	3⅛x2½	22.80*
I8204■	.022	4.0	.4	.0055	8.0	.1	2¼x2½	19.80
I8205■	.022	5.0	.2	.0055	10	.05	3¾x2½	25.20

Fig. Y.

LOW VOLTAGE FILTER INDUCTORS (FIG. P)

or transistor and low voltage applications. May be connected i series or parallel for varied inductive requirements. MIL Type 'F4R04XX. Tested 1500 V. Hermetically sealed.

Micro-tran No.	Series Connected Induct. H	ADC	DCR Ohms	Parallel Connected Induct. H	ADC	DCR Ohms	MIL Case	Net Ea., 1-9 ★
I8098	3.5	.05	200	.875	.10	50	AH	14.70
I8099	1.0	.15	65	.25	.30	16	AJ	19.50
I8100	.5	.3	30	.125	.6	7.5	EB	23.10*
I8101	.32	.6	16	.08	1.2	4	FB	26.10*
I8102	.2	1.0	4	.05	2.0	1	JA	41.40*
I8103	.07	2.5	.84	.0175	5.0	.21	JA	47.40
I8104	.022	4.0	.4	.0055	8.0	.1	JA	42.00*
I8105	.022	5.0	.2	.0055	10	.05	KA	51.60*

Quantity pricing schedule: 10-49, less 10%; 50-99, less 16⅔%; 100-249, less 33⅓%. Write or phone for prices over 249. *Not stocked. vailable on short order. In 1-249 quantity, add **$25.00** lot set-up charge.

60 Hz ISOLATION/POWER TRANSFORMERS HERMETICALLY SEALED (FIG. P)

Electrostatic shielding. Center tap permits use in either FW bridge or FW CT circuit. MIL Type TF4R03XX.

Micro. No.	Input Volts	Output Volts	AAC	VA	Size, Inches W. x D. x H.	MIL Case	Net Ea., 1-9 ★
M8094	115	115 CT	.0085	1	1⅝ x1¼ x1¾	AH	$20.40
M8095	115	115 CT	.03	3.5	1¹³⁄₁₆x1¹¹⁄₁₆x2½	EA	42.00*
		12.6 CT	.25	3.15			
		12.6	.25	3.15			
M8151■	115	115 CT	.13	15	2⅛ x2¼ x3⅛	FA	36.60*
M8096■	115	115 CT	.35	40	2⅝ x2¾x3¹¹⁄₁₆	GA	44.40
M8078■	115	115 CT	.9	100	3¾ x3¹¹⁄₁₆x5¼	KA	55.80*

■Primary 105/115/125 V.

400 Hz ISOLATION POWER TRANSFORMERS HERMETICALLY SEALED (FIG. P)

Electrostatic shielding. Also for use in either FW bridge or FW CT circuit. MIL Type TF4R03XX.

Micro. No.	Input Volts	Output Volts	AAC	VA	Size, Inches W. x D. x H.	MIL Case	Net, 1-9 ★
M8058†	115	115 CT	.017	2	⅝ dia. x 1⅞	YY	$16.50
M8059	115	115 CT	.35	40	1¹³⁄₁₆x1¹¹⁄₁₆x2⅛	EB	27.90
M8060	115	115 CT	1.3	150	2⅝ x2¾x3¹¹⁄₁₆	GA	48.60
M8061	115■	115 CT	2.6	300	3⅛ x3¼x4⅞	JA	79.50
M8062	115■	115 CT	4.4	500	3⅝ x3¹¹⁄₁₆x5¼	KA	88.20
M8082†	26	12.6 CT	.15	1.9	1⅛ dia. x 1⅛	YY	20.70
		12.6	.15	1.9			
M8083	115	115 CT	.03	10	1⅝ x1⅝ x2⅜	AJ	31.20
		12.6 CT	.25	total			
		12.6	.25				
M8084	115	115 CT	.12	14	1⅝ x1⅝ x2⅜	AJ	22.20
M8085	115	115 CT	.7	80	2⅛ x2⅛ x3⅛	FA	50.40

■Primary 105/115/125 V. †Fig. K.

400 Hz TOROIDAL POWER TRANSFORMERS (FIG. W)

Ideal for applications requiring minimum size and weight. Feature epoxy molded case and printed circuit pins which can be bent for chassis mounting. Toroidal cores provide greater efficiency and low phase shift. All have 115 V primary windings and center .170" clearance hole for #8 screw. MIL Type TF5S03ZZ.

Micro. No.	Secondary V	Secondary mA	VA	Size, Inches O.D. x Ht.	Wt., Oz.	Net Ea., 1-9 ★
M8106	28 CT	320	9	1½ x 1⅛	2	$22.50
M8107	28 CT	710	20	1½ x 1¾	4	25.05
M8108	56 CT	160	9	1½ x 1⅛	2	22.80
M8109	56 CT	356	20	1½ x 1¾	4	25.05
M8110	115 CT	78	9	1½ x 1⅛	2	23.10*
M8111	115 CT	170	20	1½ x 1¾	4	25.05

J. W. Miller Coils and Chokes

UNIVERSAL REPLACEMENT COILS (FIG. A)

This series of variable inductance iron core coils are well suited for general replacement use. The inductance may be adjusted to cover the standard broadcast band with tuning condensers having a maximum capacity of between 250 and 450 pF. The oscillator coils may be used with any IF amplifier operating in the 100 to 550 kHz range. Complete instructions are supplied. Oscillator coil has a tapped secondary and primary.

SHIELDED

Size: 1⅜" square x 2½" high.

Miller No.	Use	Freq. Range kHz	Net Each
73-A	Ant. stage	500-1800	$7.01
73-RF	RF stage	500-1800	6.00
73-OSC	Osc. coil	100-550 IF	9.36

UNSHIELDED HIGH-Q RF COILS (FIG. C)

Unshielded permeability tuned coils for replacement or use as front end, new receiver components. Can be shielded in Miller type S-33 shields with very little loss in Q. Size: ⅜" x 2" form. Ranges shown are for use with a 365 pF variable tuning capacitor.

All Nos.—Net Each.....**$5.70**

Miller No.	Use	Range
A-5495-A	Ant. stage	Bdcst, 540-1700 kHz
A-5495-RF	RF stage	Bdcst, 540-1700 kHz
A-5495-C	Std. osc.	455 kHz; 400 pF pad
A-5496-C	Tap. osc.	455 kHz; 400 pF pad
B-5495-A	Ant. stage	Short, 1.7-5.5 MHz
B-5495-RF	RF stage	Short, 1.7-5.5 MHz
B-5495-C	Std. osc.	455 kHz; .002 μF pad
B-5496-C	Tap. osc.	455 kHz; .002 μF pad
C-5495-A	Ant. stage	Short, 5.5-15 MHz
C-5495-RF	RF stage	Short, 5.5-15 MHz
C-5495-C	Std. osc.	455 kHz; .005 μF pad
C-5496-C	Tap. osc.	455 kHz; .005 μF pad
D-5495-A	Ant. stage	HI-freq, 12-36 MHz
D-5495-RF	RF stage	HI-freq; 12-36 MHz
D-5495-C	Std. osc.	455 kHz; .01 μF pad
D-5496-C	Tap. osc.	455 kHz; .01 μF pad
X-5495-A	Ant. stage	Long, 140-420 kHz
X-5495-RF	RF stage	Long, 140-420 kHz
X-5495-C	Std. osc.	455 kHz; 120 pF pad
X-5496-C	Tap. osc.	455 kHz; 120 pF pad

AUTODYNE OSCILLATOR COIL

General replacement in receivers with autodyne mixer circuit. Use with 12-C12 IF transformer. Tracks with cut section variable capacitors, 100-200 pF. Freq. range, 540-1605 kHz. Size: ⅜" dia. x 1⅛ lg. Mtg. clip fits ⅛" dia. hole.

Miller No. 67-OSC—Net Each...**$4.80**

MIDGET RF COILS (FIG. E)

(ADJUSTABLE INDUCTANCE)

Series of compact shielded coils are provided with an adjustable powdered iron core permitting approximately plus or minus 30% secondary inductance deviation from nominal values. Size: 1⅛" square x 2½" high (all types). #6-32 spade bolt mounting. Permeability tuned.

BROADCAST BAND, 540-1700 kHz

Miller No.	Use	IF Freq.*	Net Each
A-320-A	Antenna	.....	$6.60
A-320-RF	RF stage	.....	6.60
A-320-C	2-coil osc.	455 kHz	6.60
A-321-C	Tapped osc.	455 kHz	6.60

MARINE AND AIRCRAFT BAND 2100-6300 kHz

B-320-A	Antenna	.....	$6.90
B-320-RF	RF stage	.....	6.90
B-320-C	2-coil osc.	455 kHz	6.90
B-321-C	Tapped osc.	455 kHz	6.90

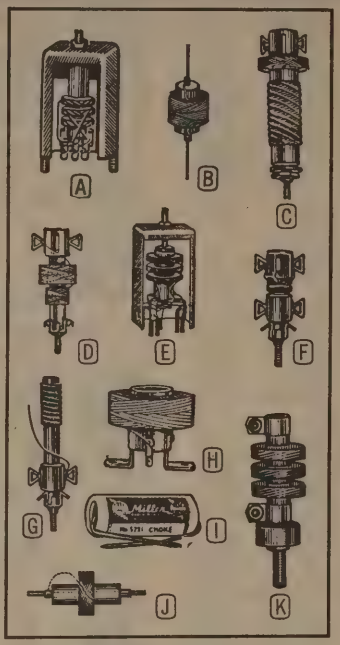
SHORT WAVE BAND, 6.0-18 MHz

C-320-A	Antenna	.....	$6.60
C-320-RF	RF stage	.....	6.60
C-320-C	2-coil osc.	455 kHz	6.60
C-321-C	Tapped osc.	455 kHz	6.60

LONG WAVE BAND, 140-420 kHz

X-320-A	Antenna	.....	$6.90
X-320-RF	RF stage	.....	6.90
X-320-C	2-coil osc.	455 kHz	6.90
X-321-C	Tapped osc.	455 kHz	6.90

*When used with 365 pF tuning capacitor.



MINIATURE ADJUSTABLE RF COILS (FIG. D)

High Q iron core type for general replacement use. Size: ½" dia. x 1½" lg., 70-A and 70-RF; 1⅛" lg., 69-OSC and 70-OSC; ¾" dia. x 1¾" lg., 71-RF.

Miller No.	Use	Freq. Range kHz	Net Each
70-A	Ant. stage	540-1600	$4.20
70-RF	RF stage	540-1600	3.00
70-OSC	Osc. stage*	540-1600	3.00
69-OSC	Osc. stage†	540-1600	4.80
71-RF	RF coil	540-1600	4.50

*Primary and tapped secondary; IF 100-550 kHz. †Capacity coupled, 100-550 kHz.

LINE FILTER CHOKES (FIG. H)

Stop noise in flasher signs, motor generators, etc.; also prevent RF feedback into power circuits of radio transmitters. Medium duty units are duo-lateral wound on ceramic forms; light duty units (*) wound on white ceramic forms.

SINGLE CHOKES

Filter individual and branch circuits. Size: Medium duty, 2½" x 4"; light duty, 1⅞" x 1¾".

Miller No.	Cur., Amps	Resis., Ohms	Ind., mH	Net Each
7826	5	.28	.57	$27.00
7827	10	.15	.37	27.60
7828	15	.085	.20	28.80
7829	20	.05	.135	34.20
7825*	2	.7	.600	11.10
7825-3*	3	.25	.250	11.10
7825-5*	5	.1	.100	11.10
7825-8*	8	.05	.050	11.10

DUAL LINE CHOKES

For both sides of single phase circuits. Size: Medium duty, 4½" x 4"; light duty, 3¼" x 2⅛".

D-7826	5	.28	.57	$51.75
D-7827	10	.15	.37	51.75
D-7828	15	.085	.20	51.75
D-7829	20	.05	.135	54.00
D-7825*	2	.7	.600	19.20
D-7825-3*	3	.25	.250	20.40
D-7825-5*	5	.1	.100	21.60
D-7825-8*	8	.05	.050	22.80

FILAMENT CHOKE (FIG. I)

Enclosed solenoid wound choke for use in filament and vibrator circuits of battery operated receivers, transmitters, etc. Size: ¾" dia. x 2" lg.; with 3" leads. Rated 4 μH, ±20%; .024 ohm; 6 amps.

Miller No. 5221—Net Each.....**$2.94**

UNIVERSAL ADJUSTABLE OSCILLATOR COIL (FIG. F)

Iron core for general replacement use. Size: ⅝" dia. x 1⅝" h. Frequency range, 540-1800 kHz; IF, 100-550 kHz.

Miller No. 71-OSC—Net Each...**$4.50**

HIGH-Q ANTENNA COIL (FIG. G)

Ferrite type supplied with mtg. bracket. Size: ⅜" dia. x 2¼" lg. Frequency range, 540-1700 kHz.

Miller No. 6300—Net Each.....**$2.85**

SINGLE PI RF COILS (FIG. B)

Wound on phenolic forms with axial leads. Rated 250 mA max. Moisture and fungus resistant impregnated.

Miller No.	Ind., μH	Minimum Q at Freq.	Net Each
72F105AP	10	23 at 2.5 MHz	$1.59
72F125AP	12	21 at 2.5 MHz	1.59
72F155AP	15	20 at 2.5 MHz	1.65
72F185AP	18	20 at 2.5 MHz	1.65
72F225AP	22	18 at 2.5 MHz	1.77
72F275AP	27	17 at 2.5 MHz	1.77
72F335AP	33	16 at 2.5 MHz	1.77
72F395AP	39	15 at 2.5 MHz	1.77
72F475AP	47	14 at 2.5 MHz	1.77
72F565AP	56	13 at 2.5 MHz	1.77
72F685AP	68	12 at 2.5 MHz	1.77
72F825AP	82	12 at 2.5 MHz	1.77
72F104AP	100	20 at 790 kHz	1.77
72F124AP	120	19 at 790 kHz	1.77
72F154AP	150	18 at 790 kHz	1.77
72F184AP	180	17 at 790 kHz	1.77
72F224AP	220	17 at 790 kHz	1.80
72F274AP	270	16 at 790 kHz	1.80
72F334AP	330	16 at 790 kHz	1.92
72F394AP	390	16 at 790 kHz	1.92
72F474AP	470	15 at 790 kHz	1.92
72F564AP	560	14 at 790 kHz	1.92
72F684AP	680	14 at 790 kHz	1.92
72F824AP	820	13 at 790 kHz	1.92
72F103AP	1000	28 at 250 kHz	1.95

VIDEO PEAKING COILS (FIG. J)

Size: ⅜" dia. x ⅞" lg. for 6175; ⅜" dia. x ⅜" lg. all others.

Miller No.	Ind., μH	Shunt Ohms	Net Each
6175*	0.8	None	$1.65
6152	20	None	1.65
6176	36	None	1.65
6110	60	None	1.17
6172	73	None	1.65
6177	93	None	1.65
6112	100	None	1.26
6178	120	22K	1.65
6153	120	None	1.65
6120	155	None	1.53
6179	180	39K	1.65
6180	180	None	1.65
6154	200	None	1.65
6173	250	22K	1.65
6181	250	None	1.65
6130	275	None	1.65
6155	300	None	1.65
6132	330	None	1.65
6134	375	None	1.65
6136	420	None	1.65
6138	470	None	1.65
6174	500	None	1.65
6144	550	None	1.65
6146	600	None	1.65
6148	700	None	1.65
6156	800	None	1.92
6157	950	None	1.65

*Filament choke; all others peaking coils.

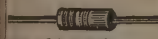
STUD MOUNTED LOW-CAPACITY RF CHOKES (FIG. K)

Single stud mounted resistor type RF chokes for use in transmitters and receivers. Pi-wound for very low distributed capacity. Made of molded bakelite forms and equipped with "Sta-On" terminal clips. Coaxial #6-32 thread mounting stud (⅛" high). **Size:** ⅝" O.D. x 1¼" h.

Miller No.	mH	Ohms	mA	Net Each
4527	1.0	16.8	200	$5.55
4530	2.5	27.6	200	5.85

J. W. Miller RF Chokes

SERIES 9230 MOLDED MICRO-MINIATURES



Color coded per MIL-C-15305*. **Power Rating:** .17 watt max. at 90° C. **Inductance:** ±10%. **Size:** .095″ dia. x .250″ lg.; leads #24 AWG, 1½″ lg. Iron core except as noted.

Miller No.	Ind., μH	Min. Q at Freq., MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9230-94*	.10	40 at 25	690	.07	1100	$1.08
9230-96*	.12	40 at 25	650	.08	1100	1.08
9230-00*	.15	38 at 25	600	.10	1100	1.08
9230-02*	.18	35 at 25	550	.12	1010	1.08
9230-04*	.22	33 at 25	510	.14	935	1.08
9230-06*	.27	33 at 25	430	.16	875	1.08
9230-08*	.33	30 at 25	410	.20	780	1.08
9230-10*	.39	30 at 25	380	.30	640	1.08
9230-12*	.47	30 at 25	340	.35	590	1.08
9230-14*	.56	30 at 25	300	.50	495	1.08
9230-16*	.68	28 at 25	275	.60	450	1.08
9230-18*	.82	28 at 25	250	.85	380	1.08
9230-20*	1.0	25 at 25	230	1.00	350	1.08
9230-22	1.2	25 at 7.9	150	.18	825	1.14
9230-24	1.5	28 at 7.9	140	.22	745	1.14
9230-26	1.8	30 at 7.9	125	.30	640	1.14
9230-28	2.2	30 at 7.9	115	.40	550	1.14
9230-30	2.7	37 at 7.9	100	.50	495	1.14
9230-32	3.3	45 at 7.9	90	.85	380	1.14
9230-34	3.9	45 at 7.9	82	1.00	350	1.14
9230-36	4.7	45 at 7.9	75	1.20	320	1.14
9230-38	5.6	50 at 7.9	68	1.80	260	1.29
9230-40	6.8	50 at 7.9	60	2.00	245	1.29
9230-42	8.2	55 at 7.9	55	2.70	210	1.29
9230-44	10.0	55 at 7.9	50	3.70	180	1.29
9230-46	12.0	45 at 2.5	40	2.70	210	1.41
9230-48	15.0	45 at 2.5	35	2.80	205	1.41
9230-50	18.0	50 at 2.5	32	3.10	195	1.41
9230-52	22.0	50 at 2.5	25	3.30	190	1.41
9230-54	27.0	50 at 2.5	22	3.50	185	1.41
9230-56†	33.0	45 at 2.5	24	3.40	187	1.50
9230-58†	39.0	45 at 2.5	22	3.60	180	1.74
9230-60†	47.0	45 at 2.5	20	4.50	165	1.74
9230-62†	56.0	45 at 2.5	18	5.70	145	1.74
9230-64†	68.0	50 at 2.5	15	6.70	135	1.74
9230-66†	82.0	50 at 2.5	14	7.30	130	1.74
9230-68†	100.0	50 at 2.5	13	8.00	125	1.74
9230-70†	120.0	30 at .79	12	13.00	97	2.37
9230-72†•	150.0	30 at .79	11	15.00	85	2.37
9230-74†•	180.0	30 at .79	10	17.00	79	2.37
9230-76†•	220.0	30 at .79	9	21.00	73	2.37
9230-78†•	270.0	30 at .79	8	25.00	65	2.37
9230-80†•	330.0	30 at .79	7	28.00	62	2.37
9230-82†•	390.0	30 at .79	6.5	35.00	55	2.37
9230-84†•	470.0	30 at .79	6	42.00	50	2.37
9230-86†•	560.0	30 at .79	5	46.00	48	2.37
9230-88†•	680.0	30 at .79	4.2	60.00	42	2.37
9230-90†•	820.0	30 at .79	3.8	65.00	40	2.37
9230-92†•	1000.0	30 at .79	3.4	72.00	38	2.37

PI-WOUND RF COILS



Single pi-wound on ferrite core; impregnated with fungus-resistant lacquer. **Inductance:** ±5%. **Size:** .187″ x ⅜″ form.

3F104AF	100	140 at .79	7.7	2.0	250	$2.04
3F124AF	120	140 at .79	7.0	2.2	250	2.04
3F154AF	150	160 at .79	6.3	2.5	250	2.04
3F184AF	180	160 at .79	6.0	2.9	250	2.04
3F224AF	220	160 at .79	5.6	3.2	250	2.04
3F274AF	270	160 at .79	5.1	3.6	250	2.04
3F334AF	330	160 at .79	4.8	3.8	250	2.04
3F394AF	390	160 at .79	4.4	4.2	225	2.04
3F474AF	470	160 at .79	3.9	4.8	200	2.04
3F564AF	560	160 at .79	3.6	5.3	200	2.13
3F684AF	680	160 at .79	3.4	6.0	200	2.13
3F824AF	820	150 at .79	3.1	6.8	200	2.13
3F103AF	1.0 mH	140 at .79	2.6	7.5	150	2.19
3F123AF	1.2 mH	140 at .25	2.2	7.8	150	2.19
3F153AF	1.5 mH	140 at .25	2.0	8.8	150	2.19
3F183AF	1.8 mH	140 at .25	1.8	11.0	150	2.19
3F223AF	2.2 mH	100 at .25	1.5	12.0	150	2.19
3F273AF	2.7 mH	100 at .25	1.4	13.5	125	2.19
3F333AF	3.3 mH	100 at .25	1.3	15.1	125	2.19
3F393AF	3.9 mH	95 at .25	1.2	18.0	125	2.19
3F473AF	4.7 mH	95 at .25	1.0	21.5	100	2.19
3F563AF	5.6 mH	95 at .25	1.0	25.0	80	2.19
3F683AF	6.8 mH	95 at .25	.90	29.0	80	2.25
3F823AF	8.2 mH	70 at .25	.91	30.0	80	2.61
3F102AF	10.0 mH	65 at .25	.85	34.0	80	2.19

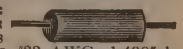
★CHOKE COLOR CODING

MIL identifier is wide silver band (or large dot on small units) at one end of coil. Three narrow bands (or small dots) follow: When first or second is gold, it indicates a decimal point for values less than 10 μH; other bands are significant figures. Above 10 μH, first two bands are significant; third band, multiplier. Fourth band of silver indicates ±10% tol.

Significant Figure Identification						Multiplier Band	
Color	Sig. No.	Color	Sig. No.	Color	Sig. No.	Color	Multiplier
Black	0	Yellow	4	Gray	8	Black	1
Brown	1	Green	5	White	9	Brown	10
Red	2	Blue	6			Red	100
Orange	3	Violet	7			Orange	1000

*Phenolic core. †Ferrite core. ‡Based on temp. rise no more than 35° C at 90° C ambient; and, overload not above 1½ times rated current. #mH. $MHz. •Power: .15 W max. at 90° C.

SERIES 9250 MOLDED MINIATURE RF CHOKES



Conform to MIL-C-15305*. **Shielding:** Electromagnetic, less than 3% cplg. **Core:** .10–.82 μH, phenolic; 1–12 μH, iron; others ferrite. **Size:** .157″ dia. x .395″ lg.; leads #22 AWG, 1.438″ lg.

Miller No.	Ind., ±10% μH	Min. Q at Freq. MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9250-101	.10	50 at 25	250	.025	2900	$1.77
9250-121	.12	51 at 25	250	.034	2800	1.77
9250-151	.15	51 at 25	250	.037	2750	1.77
9250-181	.18	50 at 25	250	.047	2200	1.77
9250-221	.22	49 at 25	250	.067	1700	1.77
9250-271	.27	47 at 25	250	.11	1500	1.77
9250-331	.33	46 at 25	250	.13	1300	1.77
9250-391	.39	44 at 25	250	.18	1100	1.77
9250-471	.47	44 at 25	235	.25	1000	1.77
9250-561	.56	43 at 25	210	.33	900	1.77
9250-681	.68	42 at 25	190	.45	750	1.77
9250-821	.82	40 at 25	180	.59	600	1.77
9250-102	1.00	47 at 25	140	.07	1900	2.07
9250-122	1.20	46 at 7.9	130	.093	1600	2.07
9250-152	1.50	45 at 7.9	115	.12	1300	2.07
9250-182	1.80	43 at 7.9	105	.14	1200	2.07
9250-222	2.20	45 at 7.9	100	.19	1100	2.07
9250-272	2.70	46 at 7.9	92	.28	950	2.07
9250-332	3.30	44 at 7.9	85	.35	800	2.07
9250-392	3.90	44 at 7.9	75	.40	750	2.07
9250-472	4.70	44 at 7.9	70	.55	650	2.07
9250-562	5.60	47 at 7.9	65	.72	550	2.07
9250-682	6.80	50 at 7.9	55	1.02	500	2.07
9250-822	8.20	50 at 7.9	50	1.32	475	2.07
9250-103	10.0	49 at 7.9	46	1.62	450	2.07
9250-123	12.0	55 at 2.5	44	2.00	400	2.07
9250-153	15.0	44 at 2.5	49	.80	620	2.46
9250-183	18.0	45 at 2.5	45	.89	610	2.46
9250-223	22.0	46 at 2.5	41	.96	600	2.46
9250-273	27.0	49 at 2.5	38	1.19	500	2.46
9250-333	33.0	45 at 2.5	34	1.37	490	2.46
9250-393	39.0	53 at 2.5	29	1.93	410	2.46
9250-473	47.0	52 at 2.5	27	2.11	400	2.46
9250-563	56.0	49 at 2.5	25	2.23	380	2.46
9250-683	68.0	51 at 2.5	21	2.70	370	2.46
9250-823	82.0	45 at 2.5	10.5	2.44	360	2.94
9250-104	100.0	52 at 2.5	10	3.12	325	2.94
9250-124	120.0	57 at .79	9.7	3.60	290	2.94
9250-154	150.0	56 at .79	8.5	4.10	275	2.94
9250-184	180.0	60 at .79	8.0	4.40	260	2.94
9250-224	220.0	58 at .79	7.5	5.00	250	2.94
9250-274	270.0	60 at .79	7.0	5.80	240	2.94
9250-334	330.0	54 at .79	6.5	6.40	225	2.94
9250-394	390.0	67 at .79	6.2	7.40	200	2.94
9250-474	470.0	60 at .79	5.7	9.50	180	2.94
9250-564	560.0	60 at .79	4.7	10.5	174	2.94
9250-684	680.0	60 at .79	4.5	11.8	168	2.94
9250-824	820.0	57 at .79	4.2	13.0	152	2.94
9250-105	1 mH	65 at .79	3.8	17.5	135	2.94
9250-125	1.2 mH	45 at .25	1.5	22.1	115	3.15
9250-155	1.5 mH	49 at .25	1.2	26.5	110	3.15
9250-185	1.8 mH	47 at .25	1.0	29.9	105	3.15
9250-225	2.2 mH	50 at .25	.97	33.8	99	3.15
9250-275	2.7 mH	47 at .25	.92	47.3	83	3.15
9250-335	3.3 mH	43 at .25	.84	53.0	80	3.15
9250-395	3.9 mH	43 at .25	.80	73.8	67	3.15
9250-475	4.7 mH	44 at .25	.74	81.6	63	3.15
9250-565	5.6 mH	45 at .25	.73	98.9	56	3.15
9250-685	6.8 mH	43 at .25	.66	111.0	54	3.15
9250-825	8.2 mH	42 at .25	.54	119.0	52	3.15
9250-106	10.0 mH	39 at .25	.47	137.0	49	3.15
9250-126	12.0 mH	31 at .079	.33	143.0	46	4.20
9250-156	15.0 mH	31 at .079	.29	157.0	45	4.20
9250-186	18.0 mH	31 at .079	.28	175.0	41	4.20
9250-226	22.0 mH	27 at .079	.25	274.0	33	4.20
9250-276	27.0 mH	27 at .079	.21	308.0	31	4.20
9250-336	33.0 mH	27 at .079	.19	343.0	30	4.20
9250-396	39.0 mH	27 at .079	.17	376.0	27	4.20
9250-476	47.0 mH	23 at .079	.16	473.0	26	4.20
9250-566	56.0 mH	23 at .079	.14	512.0	25	4.20
9250-686	68.0 mH	23 at .079	.13	580.0	24	4.20
9250-826	82.0 mH	21 at .079	.12	618.0	23	4.20
9250-107	100.0 mH	18 at .079	.11	678.0	22	4.20

SERIES 9360 MOLDED RF CHOKES



Conform to MIL type LT8K*. **Inductance:** ±20%, 1.1–2.2 μH; ±10%, all others. **Size:** .281″ dia. x .937″ lg.; leads 1.5″ lg. Iron core except as noted.

Miller No.	Ind. μH	Min. Q at Freq., MHz	Min. Reson., MHz	Max. Res., Ohms	Max. mA‡	Net Each
9360-01*	1.1	60 at 10.0	200	.09	2800	$1.38
9360-02*	2.2	65 at 10.0	165	.20	1800	1.38
9360-03*	3.3	50 at 6.0	130	.32	1500	1.38
9360-04*	4.7	45 at 5.0	100	.60	1100	1.38
9360-05*	6.8	40 at 4.0	90	1.10	800	1.38
9360-06*	10.0	40 at 3.5	70	1.80	600	1.38
9360-07*	15.0	40 at 3.0	55	3.00	500	1.38
9360-08	22.0	30 at 2.5	27	.30	1500	1.47
9360-09	33.0	45 at 2.0	21	.60	1100	1.47
9360-10	47.0	70 at 1.5	16	1.20	700	1.47
9360-11	82.0	85 at 1.2	14	2.20	600	1.47
9360-12	100	85 at 1.0	14	2.80	500	1.47
9360-13	120	85 at 1.0	13	4.00	400	1.47

J. W. Miller Micro Mite RF Chokes



Hermetically sealed, molded, color coded "Micro Mite" series miniature coils conform to MIL-C-15305 specifications.

SERIES 9210 MOLDED COILS

Power Rating: .22-watt max. at 90° C. **Size:** 0.155″ dia. x 0.375″ lg.; leads #22 AWG, 1.44″ long. **Inductance:** ±5%.

Miller Number	Ind., μH	Min. Q at Freq., MHz	Res. Freq., MHz	Max. Res., Ohms	Max. mA	Net Each
9210-54	36	60 at 2.5	16.0	2.50	250	$0.96
9210-56	39	60 at 2.5	15.0	2.60	245	.96
9210-58	43	60 at 2.5	13.7	2.70	242	.96
9210-60	47	55 at 2.5	13.0	2.75	240	.96
9210-62	51	55 at 2.5	12.7	2.85	235	.96
9210-64	56	55 at 2.5	12.0	3.00	230	.96
9210-66	62	55 at 2.5	11.0	3.15	225	.96
9210-68	68	55 at 2.5	11.0	3.30	220	.96
9210-70	75	55 at 2.5	10.5	3.70	205	.96
9210-72	82	50 at 2.5	10.3	3.90	200	.96
9210-74	91	50 at 2.5	10.0	4.30	190	.96
9210-76	100	50 at 2.5	9.5	4.50	185	1.05
9210-78	110	60 at .790	8.5	4.90	180	1.05
9210-80	120	65 at .790	8.5	5.20	175	1.05
9210-82	130	65 at .790	8.5	5.45	170	1.05
9210-84	150	65 at .790	8.0	6.05	165	1.05
9210-86	160	65 at .790	8.0	6.40	160	1.05
9210-88	180	65 at .790	7.0	6.50	155	1.05
9210-90	200	65 at .790	6.5	6.90	150	1.05
9210-92	220	65 at .790	6.0	7.20	145	1.05
9210-94	240	65 at .790	6.0	7.40	140	1.05

SERIES 9220 MOLDED COILS

Power and Size: Values 270–1000 μH, .25 W max. at 90° C; .190″ dia. x .440″ lg. with #22 AWG leads. 1100–3600 μH, .40 W max. at 90° C; .215″ dia. x .560″ lg.; #21 AWG leads. 3900 μH up, .45 W max at 90° C; .240″ dia. x .740″ lg.; #20 AWG leads. **Induct.:** ±5%.

9220-00	270	65 at .790	5.3	8.0	150	$1.11
9220-02	300	65 at .790	5.0	8.6	145	1.11
9220-04	330	65 at .790	5.0	8.9	142	1.11
9220-06	360	65 at .790	4.7	9.6	137	1.11
9220-08	390	65 at .790	4.5	9.9	135	1.11
9220-10	430	65 at .790	4.3	10.4	131	1.11
9220-12	470	65 at .790	4.0	10.9	128	1.11
9220-14	500	65 at .790	3.7	11.3	126	1.11
9220-15	510	65 at .790	3.8	11.6	92	1.11
9220-16	560	65 at .790	3.5	11.8	123	1.11
9220-18	620	60 at .790	3.5	12.5	120	1.20
9220-20	680	60 at .790	3.3	13.5	115	1.20
9220-22	750	60 at .790	3.3	14.0	113	1.20
9220-24	820	60 at .790	3.0	15.0	110	1.20
9220-26	910	60 at .790	3.0	15.5	107	1.20
9220-28	1000	60 at .790	2.8	16.5	104	1.20
9220-30	1100	60 at .250	2.7	21.0	117	1.44
9220-32	1200	60 at .250	2.7	22.0	114	1.44
9220-34	1300	60 at .250	2.6	22.5	113	1.44
9220-36	1500	65 at .250	2.3	24.5	108	1.44
9220-38	1600	65 at .250	2.2	25.7	106	1.44
9220-40	1800	65 at .250	2.2	27.3	102	1.44
9220-42	2000	65 at .250	2.0	29.0	99	1.44
9220-44	2200	70 at .250	2.0	30.0	98	1.44
9220-46	2400	70 at .250	1.9	31.5	96	1.44
9220-48	2700	70 at .250	1.9	33.0	93	1.44
9220-50	3000	70 at .250	1.8	35.0	91	1.44
9220-52	3300	70 at .250	1.6	37.8	87	1.44
9220-54	3600	70 at .250	1.5	39.3	85	1.44
9220-56	3900	80 at .250	1.5	43.0	86	1.59
9220-58	4300	80 at .250	1.5	45.0	85	1.59
9220-60	4700	80 at .250	1.4	47.0	83	1.59
9220-62	5000	80 at .250	1.3	48.3	82	1.59
9220-64	5600	80 at .250	1.3	52.0	79	1.59
9220-66	6200	80 at .250	1.2	54.0	77	1.59
9220-68	6800	80 at .250	1.2	56.5	75	1.59
9220-70	7500	80 at .250	1.2	59.5	73	1.59
9220-72	8200	80 at .250	1.1	62.5	72	1.59
9220-74	9100	80 at .250	1.0	66.5	69	1.59
9220-76	10000	80 at .250	1.0	70.0	68	1.59

SERIES 9330 MOLDED COILS MS 16222

Power Rating: ½-watt at 90° C. **Size:** 0.215″ dia. x .560″ lg.

Miller Number	±10% Ind., μH	Min. Q at Freq., MHz	Res. Freq., MHz	Max. Res., Ohms	Max. mA	Net Each
9330-00*	.47	65 at 25	300	.06	1970	$0.72
9330-01*	.56	65 at 25	270	.08	1850	.72
9330-02*	.68	65 at 25	240	.08	1700	.72
9330-03*	.82	65 at 25	220	.11	1520	.72
9330-04*	1.00	65 at 25	200	.14	1290	.72
9330-05*	1.20	40 at 7.9	180	.19	1120	.72
9330-06*	1.50	40 at 7.9	160	.28	925	.72
9330-07*	1.80	40 at 7.9	150	.37	790	.72
9330-08*	2.20	40 at 7.9	135	.50	680	.72
9330-10*	2.70	40 at 7.9	120	.65	600	.72
9330-12*	3.30	40 at 7.9	105	1.00	480	.72
9330-14*	3.90	40 at 7.9	100	1.20	440	.72
9330-16*	4.70	40 at 7.9	90	1.80	360	.72
9330-18	5.60	35 at 7.9	55	.13	1340	.81
9330-20	6.80	35 at 7.9	50	.20	1080	.81
9330-22	8.20	35 at 7.9	44	.22	1030	.81
9330-24	10.0	35 at 7.9	42	.26	950	.81
9330-26	12.0	45 at 2.5	34	.45	720	.81
9330-28	15.0	45 at 2.5	32	.52	670	.81
9330-30	18.0	50 at 2.5	28	.70	580	.81
9330-32	22.0	60 at 2.5	24	1.00	480	.81
9330-34	27.0	60 at 2.5	22	1.30	420	.81
9330-36	33.0	60 at 2.5	20	1.50	390	.81
9330-38	39.0	70 at 2.5	18	2.00	340	.81

SERIES 9310 MOLDED COILS MS 18130

Power Rating: ¼-watt max. at 90° C. **Size:** 0.155″ dia. x .375″ lg.; leads, #22 AWG, 1.437″ long. **Inductance:** ±10%.

Miller Number	Ind., μH	Min. Q at Freq., MHz	Res. Freq., MHz	Max. Res., Ohms	Max. mA	Net Each
9310-00*	.15‡	50 at 25	525	.03	2450	$0.66
9310-02*	.22‡	50 at 25	450	.055	1900	.66
9310-04*	.33‡	45 at 25	360	.09	1400	.66
9310-06*	.47‡	45 at 25	310	.12	1225	.66
9310-07*	.56	50 at 25	280	.135	1220	.66
9310-08*	.68	50 at 25	250	.15	1100	.66
9310-10*	.82	50 at 25	220	.22	900	.66
9310-12*	1.00	50 at 25	200	.29	830	.66
9310-14*	1.20	33 at 7.9	180	.42	650	.66
9310-16*	1.50	33 at 7.9	160	.50	600	.66
9310-18*	1.80	33 at 7.9	150	.65	525	.66
9310-20*	2.20	33 at 7.9	135	.95	435	.66
9310-22*	2.70	33 at 7.9	120	1.20	385	.66
9310-24*	3.30	33 at 7.9	110	2.00	300	.66
9310-26*	3.90	33 at 7.9	100	2.30	280	.66
9310-28*	4.70	33 at 7.9	90	2.60	260	.66
9310-30	5.60	45 at 7.9	60	.32	750	.72
9310-32	6.80	50 at 7.9	55	.50	600	.72
9310-34	8.20	50 at 7.9	50	.60	545	.72
9310-36	10.0	55 at 7.9	45	.90	445	.72
9310-38	12.0	65 at 2.5	42	1.10	404	.72
9310-40	15.0	65 at 2.5	40	1.40	370	.72
9310-42	18.0	75 at 2.5	34	2.25	280	.72
9310-44	22.0	75 at 2.5	30	2.50	265	.72
9310-46§	24.0	60 at 2.5	26	2.50	265	.81
9310-48	27.0	60 at 2.5	25	2.60	260	.81
9310-50§	30.0	65 at 2.5	19	2.80	255	.81
9310-52	33.0	65 at 2.5	19	3.00	250	.81

SERIES 9320 MOLDED COILS MS 75008

Power Rating: ½-watt max. at 90° C. **Size:** 0.185″ dia. x .437″ lg.

Miller Number	±10% Ind., μH	Min. Q at Freq., mHz	Res. Freq., mHz	Max. Res., Ohms	Max. mA	Net Each
9320-00*	.15‡	55 at 25	510	.03	3000	$0.66
9320-02*	.22‡	55 at 25	415	.035	2800	.66
9320-04*	.33‡	55 at 25	350	.05	2000	.66
9320-06*	.47‡	55 at 25	300	.08	1700	.66
9320-07*	.56	55 at 25	270	.100	1450	.66
9320-08*	.68	55 at 25	250	.12	1300	.66
9320-09*	.82	55 at 25	220	.180	1100	.66
9320-10*	1.00	55 at 25	200	.25	930	.66
9320-11*	1.20	35 at 7.9	180	.400	785	.66
9320-12*	1.50	35 at 7.9	170	.485	700	.66
9320-13*	1.80	35 at 7.9	150	.740	580	.66
9320-14*	2.20	35 at 7.9	140	.90	505	.66
9320-16*	2.70	35 at 7.9	120	1.10	460	.66
9320-18	3.30	35 at 7.9	70	.12	1350	.72
9320-20	3.90	35 at 7.9	65	.155	1250	.72
9320-22	4.70	35 at 7.9	60	.210	1100	.72
9320-24	5.60	35 at 7.9	50	.280	935	.72
9320-26	6.80	35 at 7.9	50	.375	810	.72
9320-28	8.20	35 at 7.9	48	.400	750	.72
9320-30	10.0	35 at 7.9	42	.60	640	.72
9320-32	12.0	50 at 2.5	36	.85	490	.72
9320-34	15.0	55 at 2.5	30	1.20	460	.72
9320-35	18.0	60 at 2.5	30	1.80	360	.72
9320-36	22.0	60 at 2.5	24	2.00	335	.72
9320-38	27.0	65 at 2.5	22	2.75	300	.72

SERIES 9340 MOLDED COILS MS 91189

Power Rating: ⅓-watt max. at 90° C. **Size:** 0.280″ dia. x .900″ lg.

Miller Number	±10% Ind., μH	Min. Q at Freq., MHz	Res. Freq., MHz	Max. Res., Ohms	Max. mA	Net Each
9340-00*	1.2	60 at 7.9	170	.075	2400	$0.84
9340-02*	1.5	60 at 7.9	160	.090	2150	.84
9340-03*	1.8	60 at 7.9	140	.135	1750	.84
9340-04*	2.2	60 at 7.9	125	.160	1600	.84
9340-06*	2.7	60 at 7.9	115	.220	1350	.84
9340-08*	3.3	60 at 7.9	100	.305	1150	.84
9340-10*	3.9	60 at 7.9	95	.45	955	.84
9340-12*	4.7	60 at 7.9	90	.560	860	.84
9340-14*	5.6	60 at 7.9	80	.745	745	.84
9340-16*	6.8	60 at 7.9	75	1.05	635	.84
9340-18*	8.2	60 at 7.9	68	1.4	550	.84
9340-20*	10.0	60 at 7.9	60	1.9	460	.84
9340-22*	12.0	40 at 2.5	53	2.65	395	.84
9340-24*	15.0	40 at 2.5	50	3.25	355	.84
9340-26*	18.0	40 at 2.5	45	4.15	315	.84
9340-28	22.0	50 at 2.5	25	.295	1150	.90
9340-30	27.0	45 at 2.5	22	.350	1050	.90
9340-32	33.0	60 at 2.5	20	.550	865	.90
9340-34	39.0	55 at 2.5	18	.65	810	.90
9340-36	47.0	65 at 2.5	16	1.0	640	.90
9340-38	56.0	65 at 2.5	14	1.15	620	.90
9340-39	68.0	75 at 2.5	13	1.85	470	.90
9340-40	82.0	75 at 2.5	13	2.10	440	.90
9340-42	100.0	75 at 2.5	12	2.50	405	.90
9340-44	120.0	95 at .790	10	4.00	315	.90

*Phenolic core; †Ferrite core; all others iron core. ‡ ±20%. §Not available MS type.

J. W. Miller Coils and Chokes

SERIES 9350 MOLDED COILS MS 75052

Power and Size: Values 47–150 μH, .30 W max. at 90° C; .250″ dia. .560″ lg. 180–390 μH, .40 W; .310″ dia. x .560″ lg. 470–1000 μH, .5 W; .375″ dia. x .625″ lg. 1500 μH up, .55 W; .468″ dia. x .687″ lg.

Miller No.	±10% Ind., μH	Min. Q at Freq., mHz	Res. Freq. mHz	Max. Res., Ohms	Max. mA	Each Net
9350-00*	47	18 at 2.5	13.5	5.9	195	$1.11
9350-02*	56	18 at 2.5	13	6.4	185	1.11
9350-04	68	70 at 2.5	18	3.3	255	1.14
9350-06	82	65 at 2.5	11.7	3.5	245	1.14
9350-08	100	65 at 2.5	10.7	3.8	235	1.14
9350-10	120	75 at .790	9.3	4.7	215	1.14
9350-12	150	75 at .790	8.3	5.3	200	1.14
9350-14	180	80 at .790	6.0	5.5	225	1.14
9350-16	220	80 at .790	5.5	5.9	220	1.14
9350-18	270	80 at .790	5.1	6.6	210	1.14
9350-20	330	75 at .790	4.2	7.8	185	1.14
9350-22	390	75 at .790	3.9	8.7	180	1.14
9350-24	470	80 at .790	3.7	9.0	190	1.17
9350-26	560	80 at .790	3.5	10.0	180	1.17
9350-28	680	75 at .790	3.2	11.2	170	1.17
9350-30	820	75 at .790	3.0	13.0	155	1.17
9350-32	1000	70 at .790	2.7	14.5	145	1.20
9350-34	1500	85 at .250	2.2	22.0	127	1.20
9350-36‡	2000	85 at .250	1.9	26.0	125	1.20
9350-37	2200	85 at .250	1.8	27.0	115	1.20
9350-38‡	2500	85 at .250	1.7	30.0	115	1.29
9350-39	2700	85 at .250	1.6	32.0	105	1.29
9350-40‡	5000	70 at .250	1.2	65.0	78	1.29
9350-41	5100	70 at .250	1.0	66.0	73	1.29
9350-44†	10000	70 at .250	.8	70.0	71	1.29

*Phenolic core; †Ferrite core; all others iron core. ‡Not available as S type.



PRINTED CIRCUIT RF CHOKES

Designed to offer a wide range of inductance values for use in printed circuit applications. Standard stock items impregnated with high grade coil varnish to prevent moisture absorption. Available fungus resistance treated or encapsulated in epoxy resin to MIL-C-15305. Coil length, ⅜″. Air core.

Miller No.	Ind., mH ±5% at 1 kHz	Max. DC Resis., Ohms	Min. Self-Res. Freq.	Min. Q at Freq.	Cur., Max. mA	Net Each
970	1.0	20.6	1.57 MHz	45 at 250 kHz	125	$3.72
971	1.2	23.8	1.46 MHz	47 at 250 kHz	125	3.72
972	1.5	26.4	1.38 MHz	49 at 250 kHz	125	3.72
973	1.8	29.6	1.24 MHz	50 at 250 kHz	125	3.72
974	2.2	32.9	1.04 MHz	51 at 250 kHz	125	3.72
975	2.7	37.4	1.06 MHz	52 at 250 kHz	125	3.72
976	3.3	41.8	.985 MHz	52 at 250 kHz	125	3.72
977	3.9	46.7	.900 MHz	52 at 250 kHz	125	3.72
978	4.7	51.8	.848 MHz	52 at 250 kHz	125	3.72
979	5.6	57.6	.760 MHz	51 at 250 kHz	125	3.72
980	6.8	64.4	.716 MHz	51 at 250 kHz	125	4.02
981	8.2	73.0	.520 MHz	38 at 250 kHz	100	4.02
982	10.0	81.6	.480 MHz	43 at 79 kHz	100	4.02
983	12.0	92.4	.424 MHz	46 at 79 kHz	100	4.02
984	15.0	105	.398 MHz	48 at 79 kHz	100	4.02
985	18.0	117	.370 MHz	51 at 79 kHz	100	4.14
986	22.0	130	.320 MHz	51 at 79 kHz	75	4.14
987	27.0	145	.294 MHz	51 at 79 kHz	75	4.14
988	33.0	251	.288 MHz	44 at 79 kHz	75	4.32
989	39.0	277	.264 MHz	44 at 79 kHz	75	4.32
990	47.0	316	.190 MHz	40 at 79 kHz	50	4.32
991	56.0	351	.177 MHz	39 at 79 kHz	50	4.32
992	68.0	391	.160 MHz	33 at 79 kHz	50	4.32
993	82.0	442	.145 MHz	31 at 79 kHz	50	4.50
994	100.0	473	.138 MHz	29 at 79 kHz	50	4.50

FREQUENCY SELECTIVE RF CHOKES

Designed for maximum efficiency and highest impedance at specific operating frequencies. Covers major amateur and industrial communication frequencies. Conservatively rated 600 mA.

Miller No.	Inductance ±10%	Freq. Range	Net Each
RFC-3.5	266 μH	1.8–5 MHz	$6.00
RFC-7	208 μH	3–13 MHz	4.86
RFC-14	84 μH	7–20 MHz	6.00
RFC-21	38.5 μH	15–30 MHz	2.55
RFC-28	24 μH	25–40 MHz	2.61
RFC-50	8.2 μH	30–90 MHz	3.54
RFC-144	1.72 μH	75–180 MHz	1.77
RFC-220	.82 μH	160–340 MHz	2.40
RFC-420	.22 μH	350–500 MHz	2.70

ECONOMY ADJUSTABLE RF CHOKES

Adjustable from either top or bottom; ferrite core. Mount by metal clip in ¼″ round or keyed hole. Size: ⅜″ dia. x 1⅜″.

Miller No.	Ind., μH	Net Each	Miller No.	Ind., μH	Net Each
4200-0	Form*	$1.65	4205	10–25	$2.58
4201	0.3–0.58	2.34	4206	20–55	2.70
4201-A	0.55–1.1	2.64	4207	50–140	3.00
4202	1–2.5	2.58	4208	120–330	3.00
4203	2–5.5	2.58	4209	310–860	3.00
4204	5–12	2.58			

*Less core.

RESINITE ADJUSTABLE RF COILS



Phenolic impregnated tubing for high dielectric strength, moisture resistance and non-corrosive properties. Can be certified to MIL-P-79B, Type PBG. Maximum inductance is ±5%.

MINIATURE ADJUSTABLE RF COILS

Size: ¼″ dia. x 1¹⁄₁₆″ lg., form. Fits 1¹⁄₁₆″ mounting hole.

Miller No.	Inductance, μH Min. At MHz		Max. At MHz		Min. Q at L	DCR, Ohms	Max. mA	Net Each
20A000-0	Form less core							$3.
20A107RBI	.088	25	.120	25	56–51	.041	1600	5.
20A157RBI	.131	25	.180	25	77–72	.044	1600	5.
20A227RBI	.162	25	.264	25	77–68	.051	1600	5.
20A337RBI	.238	25	.396	25	64–68	.054	1000	5.
20A477RBI	.356	25	.564	25	66–60	.078	1000	5.
20A687RBI	.508	25	.816	25	72–50	.082	635	5.
20A827RBI	.735	25	.984	25	57–41	.090	635	5.
20A106RBI	.885	25	1.20	7.9	53–42	.135	400	5.
20A156RBI	1.08	7.9	1.80	7.9	44–44	.205	400	5.
20A226RBI	1.62	7.9	2.64	7.9	39–44	.522	100	5.
20A336RBI	2.38	7.9	3.96	7.9	40–42	.640	100	5.
20A476RBI	3.56	7.9	5.64	7.9	44–42	.770	100	5.
20A686RBI	5.08	7.9	8.16	7.9	43–40	.950	100	5.
20A826RBI	7.35	7.9	9.84	7.9	45–38	1.00	100	5.
20A105RBI	8.85	7.9	12.0	2.5	37–45	1.45	100	5.
20A155RBI	10.8	2.5	18.0	2.5	32–52	1.70	100	5.
20A225RBI	16.2	2.5	26.4	2.5	39–42	2.10	100	5.
20A335RBI	23.8	2.5	39.6	2.5	40–40	2.59	100	5.
20A475RBI	35.6	2.5	56.4	2.5	42–37	3.10	100	5.
20A685RBI	50.8	2.5	81.6	2.5	36–32	3.84	100	5.
20A825RBI	73.5	2.5	98.4	2.5	38–36	4.71	100	5.
20A104RBI	88.5	2.5	120.	.79	32–37	5.00	100	5.
20A154RBI	108.	.79	180.	.79	28–40	5.95	100	5.
20A224RBI	162.	.79	264.	.79	40–38	7.50	100	5.
20A334RBI	238.	.79	396.	.79	43–44	9.50	100	5.
20A474RBI	356.	.79	564.	.79	43–38	12.0	100	5.
20A684RBI	508.	.79	816.	.79	40–32	14.5	100	5.
20A824RBI	735.	.79	984.	.79	39–32	17.0	100	5.
20A103RBI	885.	.79	1.20*	.25	40–24	21.0	100	5.

*mH.

STANDARD ADJUSTABLE RF COILS

Size: ⅜″ dia. x 1⅜″ lg., form. Fits ¼″ mounting hole.

Miller No.	Inductance, μH Min. At MHz		Max. At MHz		Min. Q at L	DCR, Ohms	Max. mA	Net Each
21A000-0	Form less core							$3.
21A106RBI	.885	25	1.20	7.9	64–52	.121	635	5.
21A156RBI	1.08	7.9	1.80	7.9	55–52	.135	635	5.
21A226RBI	1.62	7.9	2.64	7.9	56–44	.160	635	5.
21A336RBI	2.38	7.9	3.96	7.9	65–35	.184	635	5.
21A476RBI	3.56	7.9	5.64	7.9	60–44	.210	635	5.
21A686RBI	5.08	7.9	8.16	7.9	57–41	.468	255	5.
21A826RBI	7.35	7.9	9.84	7.9	53–44	.780	255	5.
21A105RBI	8.85	7.9	12.0	2.5	47–51	1.46	100	5.
21A155RBI	10.8	2.5	18.0	2.5	40–49	1.76	100	5.
21A225RBI	16.2	2.5	26.4	2.5	36–41	2.08	100	5.
21A335RBI	23.8	2.5	39.6	2.5	36–32	2.56	100	5.
21A475RBI	35.6	2.5	56.4	2.5	36–38	3.50	100	5.
21A685RBI	50.8	2.5	81.6	2.5	32–32	3.50	100	5.
21A825RBI	73.5	2.5	98.4	2.5	27–36	3.94	100	5.
21A104RBI	88.5	2.5	120.	.79	27–40	4.43	100	5.
21A154RBI	108.	.79	180.	.79	20–40	5.88	100	5.
21A224RBI	162.	.79	264.	.79	33–39	7.20	100	5.
21A334RBI	238.	.79	396.	.79	34–38	9.20	100	5.
21A474RBI	356.	.79	564.	.79	33–35	10.7	100	5.
21A684RBI	508.	.79	816.	.79	32–32	12.8	100	5.
21A824RBI	735.	.79	984.	.79	26–26	15.0	100	5.
21A103RBI	885.	.79	1.20*	.25	26–28	17.6	100	5.
21A153RBI	1.08*	.25	1.80*	.25	32–32	22.8	100	5.
21A223RBI	1.62*	.25	2.64*	.25	36–35	28.6	100	5.
21A333RBI	2.38*	.25	3.96*	.25	32–31	49.8	65	5.
21A473RBI	3.56*	.25	5.64*	.25	37–32	64.7	65	5.
21A683RBI	5.08*	.25	8.16*	.25	36–32	76.1	65	5.
21A823RBI	7.35*	.25	9.84*	.25	36–20	91.0	65	5.
21A102RBI	8.85*	.25	12.0*	79.†	36–18	104.	65	5.

*mH. †kHz.

SHIELDED SUBMINIATURE RF COILS



Minimum 2:1 inductance range with small Q change. Adjustable from top or bottom. Cup core magnetic shielding; metal electrostatic shield. Printed circuit terminals on base and shield. **Size:** ½″ sq. x ⅝″ high.

Miller No.	Inductance, μH Min.	At kHz	Max.	At kHz	Min. Q at Induct.	Max. Resis., Ohms	Max. mA	Net Each
9050	1.5	7.9§	3.0	7.9§	40–41	.66	80	$4.6
9051	3.0	7.9§	7.0	7.9§	46–45	.85	125	4.6
9052	7.0	7.9§	14.0	2.5§	40–62	1.38	80	4.6
9053	14.0	2.5§	28.0	2.5§	48–66	2.10	80	4.6
9054	28.0	2.5§	60.0	2.5§	48–45	3.00	100	4.6
9055	60.0	2.5§	120.	790.0	40–69	4.00	100	4.7
9056	120.	790.0	280.	790.0	52–68	5.75	80	4.7
9057	280.	790.0	650.	790.0	52–62	12.0	80	5.5
9058	650.	790.0	1.3#	250.0	36–68	15.0	100	5.5
9059	1.3#	250.0	3.0#	250.0	43–53	23.0	100	5.5
9059-1	1.8#	250.0	2.2#	250.0	116–129	10.0	141	5.5
9060	3.0#	250.0	10.0#	79.0	32–32	76.0	30	6.3
9061	8.0#	250.0	20.0#	79.0	35–38	110.0	30	6.3
9062	15.0#	79.0	40.0#	79.0	25–40	150.0	30	6.3
9063	20.0#	79.0	60.0#	79.0	36–60	175.0	25	6.4

#mH. §MHz.

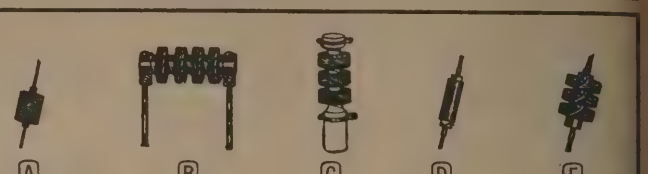
J. W. Miller RF Chokes

SUBMINIATURE RF CHOKES

(FIG. A)

Versatile iron core RF chokes meet the industries' demand for high reliability, ultra-miniature components. Ideally suited to network and filter design, delay lines, and computer applications. Tolerance: 0.1 μH-1 μH, ±20%; 1.1-15 μH, ±10%; over 15 μH, ±5%.

Miller No. 70F-	Ind.	Minimum Q at Freq.	Net Each
107AP	.10 μH	49 at 25 MHz	$1.44
157AP	.15 μH	52 at 25 MHz	1.44
227AP	.22 μH	48 at 25 MHz	1.44
337AP	.33 μH	47 at 25 MHz	1.44
477AP	.47 μH	46 at 25 MHz	1.44
687AP	.68 μH	48 at 25 MHz	1.44
757AP	.75 μH	48 at 25 MHz	1.44
827AP	.82 μH	48 at 25 MHz	1.44
106AI	1 μH	41 at 25 MHz	1.50
126AI	1.2 μH	45 at 7.9 MHz	1.50
156AI	1.5 μH	42 at 7.9 MHz	1.50
186AI	1.8 μH	31 at 7.9 MHz	1.50
226AI	2.2 μH	43 at 7.9 MHz	1.50
276AI	2.7 μH	34 at 7.9 MHz	1.50
336AI	3.3 μH	40 at 7.9 MHz	1.50
396AI	3.9 μH	35 at 7.9 MHz	1.50
476AI	4.7 μH	43 at 7.9 MHz	1.50
566AI	5.6 μH	41 at 7.9 MHz	1.50
686AI	6.8 μH	40 at 7.9 MHz	1.50
756AI	7.5 μH	32 at 7.9 MHz	1.50
826AI	8.2 μH	37 at 7.9 MHz	1.50
916AI	9.1 μH	41 at 7.9 MHz	1.50
105AI	10 μH	36 at 7.9 MHz	1.50
125AI	12 μH	52 at 2.5 MHz	1.53
155AI	15 μH	52 at 2.5 MHz	1.53
185AI	18 μH	52 at 2.5 MHz	1.53
225AI	22 μH	51 at 2.5 MHz	1.53
255AI	25 μH	48 at 2.5 MHz	1.53
275AI	27 μH	49 at 2.5 MHz	1.44
335AI	33 μH	50 at 2.5 MHz	1.53
395AI	39 μH	48 at 2.5 MHz	1.53
475AI	47 μH	44 at 2.5 MHz	1.53
565AI	56 μH	45 at 2.5 MHz	1.53
685AI	68 μH	42 at 2.5 MHz	1.53
755AI	75 μH	38 at 2.5 MHz	1.53
825AI	82 μH	41 at 2.5 MHz	1.53
915AI	91 μH	41 at 2.5 MHz	1.53
104AI	100 μH	25 at 2.5 MHz	1.53
124AI	120 μH	40 at 790 kHz	1.53
154AI	150 μH	47 at 790 kHz	1.53
184AI	180 μH	48 at 790 kHz	1.53
204AI	200 μH	47 at 790 kHz	1.53
224AI	220 μH	46 at 790 kHz	1.53
254AI	250 μH	49 at 790 kHz	1.53
274AI	270 μH	46 at 790 kHz	1.53
304AI	300 μH	46 at 790 kHz	1.53
334AI	330 μH	41 at 790 kHz	1.74
354AI	350 μH	46 at 790 kHz	1.74
394AI	390 μH	45 at 790 kHz	1.74
474AI	470 μH	35 at 790 kHz	1.74
504AI	500 μH	49 at 790 kHz	1.74
564AI	560 μH	41 at 790 kHz	1.74
684AI	680 μH	37 at 790 kHz	1.83
754AI	750 μH	40 at 790 kHz	1.74
824AI	820 μH	33 at 790 kHz	1.74
914AI	910 μH	32 at 790 kHz	1.74
103AI	1.00 mH	30 at 790 kHz	1.74
123AI	1.20 mH	34 at 250 kHz	1.74
153AI	1.50 mH	40 at 250 kHz	1.74
183AI	1.80 mH	40 at 250 kHz	1.74
223AI	2.20 mH	40 at 250 kHz	1.74
253AI	2.50 mH	48 at 250 kHz	1.74
273AI	2.70 mH	50 at 250 kHz	1.74
333AI	3.30 mH	52 at 250 kHz	1.74
393AI	3.90 mH	53 at 250 kHz	1.74
473AI	4.70 mH	49 at 250 kHz	1.74
563AI	5.60 mH	53 at 250 kHz	1.74
683AI	6.80 mH	51 at 250 kHz	1.74
753AI	7.50 mH	49 at 250 kHz	1.74
823AI	8.20 mH	48 at 250 kHz	1.74
913AI	9.10 mH	52 at 250 kHz	1.83
102AI	10.0 mH	41 at 250 kHz	1.83
122AI	12 mH	46 at 79 kHz	2.04
152AI	15 mH	50 at 79 kHz	2.04
182AI	18 mH	49 at 79 kHz	2.04
222AI	22 mH	50 at 79 kHz	2.10
252AF	25 mH	59 at 79 kHz	2.10
272AF	27 mH	61 at 79 kHz	2.40
332AF	33 mH	61 at 79 kHz	2.40
392AF	39 mH	59 at 79 kHz	2.40
472AF	47 mH	57 at 79 kHz	2.40
502AF	50 mH	57 at 79 kHz	2.88
562AF	56 mH	57 at 79 kHz	2.88
682AF	68 mH	57 at 79 kHz	2.88
752AF	75 mH	53 at 79 kHz	2.88
822AF	82 mH	50 at 79 kHz	2.88
912AF	91 mH	51 at 79 kHz	2.88
101AF	100 mH	48 at 79 kHz	2.88



CERAMIC CORE RF CHOKES

Wound on ¼" dia. form; impregnated with moisture- and fungus-resistant varnish. Low distributed capacity and accurate inductance values. Form size, ¼" dia. x 1½" lg. Tol., ±5%.

MULTIPLE PI-WOUND (FIG. B)

Miller No.	mH	Max. Ohms	mA	Net Each
4531-0	0.25	9.6	200	$4.80
4531	.5	14.4	200	4.80
4531-1	1	20.4	200	4.95
4532	1.5	25.2	200	5.16
4537	2.5	33.6	200	4.50
4538	5	50.4	125	5.85
4539	7.5	98.4	125	6.60
4540	10	114	125	7.65
4541	25	192	125	7.77

SINGLE LAYER WOUND CHOKES

For UHF receivers and low-power transmitters. Tolerance, ±10%.

Miller No.	μH	Max. Ohms	mA	Net Each
4528-1	1*	.036	300	$6.90
4528	2.5	.108	300	6.90
4529	5	.300	300	6.90
4529-10	10	1.14	300	6.90

*Tolerance, ±20%.

PROGRESSIVE WOUND CHOKES

4515	25	1.92	300	$9.00
4517	50	2.52	300	9.00
4519	100	3.60	300	9.00

CERAMIC FORM RF CHOKES (FIG. C)

High quality fixed coils wound on silicone impregnated steatite form. Coils are stand-off type mounted by a single 6-32 screw. Primary application is in low power transmitters, etc., where relatively high current capacity and low distributed capacitance are important. Tolerance: ±5% at 1000 Hz. Form 11/16" dia. x 1 15/16" long.

Miller No.	Ind., mH	Max. Ohms	Current mA	Net Each
4552	0.25	9.6	150	$7.92
4553	0.50	14.4	150	7.92
4554	1.0	20.4	150	7.92
4555	2.5	33.6	150	8.25
4556	5.0	54.0	150	8.25
4557	0.25	4.2	300	8.25
4558	0.50	6.6	300	8.25
4559	1.0	11.5	300	8.52
4560	2.5	20.4	300	8.52
4561	5.0	22.8	300	8.52

HEAVY-DUTY HASH CHOKES

Tolerance, ±20%.

No.	μH	Ohms	Amps	Net Ea.
5218	3.35	.010	20	$3.45
5219	4.9	.016	15	3.45
5220	8.8	.021	10	3.45
5230	4.0	.012	8	2.82
5240	40.0	.082	3	2.82
5248	68.0	.054	5	2.82
5250	100	.216	2	2.82
5252	125	.080	3.5	3.30
5254	250	.170	2.5	3.30
5256	500	.260	2.0	3.30
5258	1000	.550	1.0	3.51

J. W. MILLER MANUFACTURES VARIOUS OTHER TYPES OF CHOKES AND COILS. WRITE FOR A COMPLETE CATALOG.

AXIAL LEAD RF CHOKES

Cover 0.1 μH to 10 mH in 5 decades with 8 coils per decade; inductance increases in steps of approx. 50%. Wound on low loss molded phenolic or powdered iron core forms; impregnated with a moisture and fungus resistant varnish. Powdered iron used permits operation at all frequencies up into the UHF region. Phenolic form 1/4" dia. x 3/4" lg. Iron core form 7/64" dia. x 1/2" lg. Leads 1½" lg. Tolerance: 0.10-1 μH, ±20%; 1.1-10 μH, ±10%; 10 μH and up, ±5%.

PHENOLIC FORM—SINGLE WINDINGS (FIG. D)

Miller No.	Ind., μH	Min. Q	Max. Ohms	Min. MHz	Net Each
4580	0.10	68	.017	500	$1.95
4582	0.15	73	.018	410	1.95
4584	0.22	77	.020	340	1.95
4586	0.33	80	.024	288	1.95
4588	0.47	90	.034	243	1.95
4590	0.68	83	.036	208	1.95
4592	0.75	81	.040	204	1.95
4594	0.82	88	.043	200	1.95
4602	1.00	60	.050	190	1.20
4604	1.50	58	.093	149	1.20
4606	2.40	56	.190	120	1.20
4608	3.90	60	.450	93	1.20
4609	5.50	57	.670	80	1.20
4610	6.20	57	.830	76	1.20
4611	8.20	57	1.20	65	1.20
4612	10.0	36	1.50	61	1.20

IRON CORE FORM—SINGLE WINDINGS (FIG. D)

4622	10.0	69	.11	40	$1.32
4624	15.0	62	.17	33	1.32
4626	24.0	65	.34	25	1.32
4628	39.0	70	.65	20	1.32
4629	55.0	72	1.0	17	1.32
4630	62.0	83	1.2	16	1.44
4631	82.0	85	1.9	13	1.44
4632	100	107	3.0	12	1.44

PHENOLIC FORM—3-SECTION (FIG. E)

Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
4642	0.10	49	5.4	11	$1.65
4644	0.15	53	6.5	8.8	1.65
4646	0.24	56	8.5	7.2	1.71
4648	0.39	57	11	5.6	2.10
4649	0.55	58	13	4.8	2.16
4650	0.62	59	15	4.5	2.16
4651	0.75	56	16	4.0	2.16
4652	1.00	59	19	3.7	2.37

IRON CORE—3-SECTION (FIG. E)

Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
4662	1.00	83	8.6	2.6	$2.37
4664	1.50	82	11	2.1	2.37
4666	2.40	80	15	1.7	2.49
4668	3.90	73	20	1.4	2.49
4669	5.50	69	25	1.1	2.49
4670	6.20	89	37	1.0	2.70
4671	8.20	83	46	.94	2.70
4672	10.6	68	50	.82	2.70

FERRITE CORE—3-SECTION (FIG. E)

High permeability, high inductance and low DC resistance with small size. Tol., ±5%. Core, ¼" dia. x 3/8" lg.; axial leads, 1½" lg.

Miller No.	Ind., mH	Min. Q	Max. Ohms	Min. MHz	Net Each
6302	2.5	106	9.0	1.3	$2.40
6304	5.0	91	14	1.0	2.52
6306	10.0	108	31	.71	2.76
6308	25.0	102	82	.47	2.76
6310	50.0	113	127	.33	3.12

J. W. Miller IF Transformers

MINIATURE K-TRAN IF TRANSFORMERS (FIG. A)

These K-Tran transformers are permeability tuned and comparable in performance to standard size components. Expressly designed for use with the new miniature tubes. Plastic insulation throughout. Size: ¾" x ¾" x 2" high.

Miller No.	Freq.	Use	Net Each
2-H6	262 kc	Output*	$4.05
2-C12	455 kc	Tapped pri. IF	3.90
2-C30	455 kc	Inp. 11.4 kc at 6 db	4.08
2-C31	455 kc	Out. 13.6 kc at 6 db	4.08
2-C45	455 kc	Discriminator	4.32
3-W1	1500 kc	In. or intstg. IF	6.00
3-W2	1500 kc	Output, IF	6.00
203	4.5 mc	Input or interstage	4.80
204	4.5 mc	Discriminator	5.40
205	4.5 mc	Ratio detector	6.00
260	21.25 mc	IF transformer	5.40
261	21.25 mc	Discriminator	5.40
262	21.25 mc	Ratio detector	5.40
725	455 kc	Input; crystal filter	7.20
726	455 kc	Output; crys. filter	7.20

With diode filter capacitors.

MINIATURE PRINTED CIRCUIT IF'S (FIG. B)

Same as K-Tran miniature units, above, except for terminals and mounting. Size: ¾" square x 2" high.

Miller No.	Freq.	Use	Net Each
3-PH6	262 kc	Output*	$4.20
3-PC6	455 kc	Output*	4.20
163-PC	10.7 mc	Input or interstage	4.26
164-PC	10.7 mc	Discriminator	7.35
165-PC	10.7 mc	Ratio detector	5.40
204-PC	4.5 mc	Discriminator	5.40
205-PC	4.5 mc	Ratio detector	7.26

With diode filter capacitors.

SUBMINIATURE IF TRANSISTOR TRANSFORMERS (FIG. C)

Cup core construction. High impedance primary tapped winding coupled to low impedance secondary for optimum energy transfer. Size: ⅜" sq. x ⅝" high.

Miller No.	Freq. kc	Impedance, Ohms	Use	Net Each
1-C1	455	25K–600	Input	$4.50
1-C2	455	25K–1000	Output	4.50
1021	Oscillator, 78 μμf max.			4.08

FM IF TRANSFORMERS

Size: 1⅛" sq. x 2½" h. Two #6-32 spade bolts on 1⅛" centers for mounting.

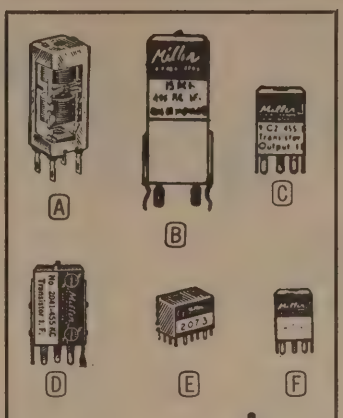
Miller No.	Description	Net Ea.
1451	10.7 mc interstage	$6.60
1452	10.7 mc discriminator	6.60
1453	10.7 mc ratio detector	6.60

J-TRAN IF TRANSFORMERS

Miniature top-tuned IF's with hollow hexagonal cores. With tuning tool permits either double or single ended tuning. Unique snap fastener attached to shield; gives positive ground to shield without soldering. Size: ¾" sq. x 2" h.

Miller No.	Freq.	Use	Net Each
4-H6	262 kc	Output*	$6.60
4-C6	455 kc	Output*	6.60
457	10.7mc	Input or interstage	5.10
458	10.7mc	Discriminator	5.10
459	10.7mc	Ratio detector	5.10
464-WB	10.7mc	Discriminator 900 kc P/P	6.90
465-WB	10.7mc	Ratio detector 800 kc P/P	4.80
230	.....	TV converter, IF	4.80
231	44mc	First IF, TV	4.80
232	42.5mc	Second IF, TV	4.80
233	45.5mc	Third IF, TV	4.80
234	44mc	Fourth IF, TV	4.80
271	4.5mc	Ratio detector	6.00

With diode filter capacitors.



PERM. TUNED IF AND DISCRIMINATOR TRANSFORMER (FIG. G)

These transformers are tunable from top and bottom of the aluminum shield. Discriminator transformers, for frequency modulation reception, are of Foster-Seeley type. Output transformers are for use in the amplifier stage preceding AM detection. Input or interstage transformers are for either AM or FM. Feature high gain with high degree of frequency stability. **Size:** 1⅜" sq. x 2½" h.; #6-32 spade bolt mounting.

Miller No.	Freq., kHz	Use	Net Each
913-C1	455	Input & interstage	10.80
913-C4	455	Output	10.80
913-CT	455	Tapped Sec.	10.80
913-CD	455	Discriminator	10.80
913-W1	1500	Input & interstage	10.80
913-W4	1500	Output	10.80
913-WD	1500	Discriminator	10.80

1500 kHz IF TRANSFORMER (FIG. H)

Miniature permeability-tuned IF transformers are useful for amateur or commercial double-conversion communication receivers. Convenient also for experimental use or other applications requiring a small-size transformer for operation in 1500 kHz range. **Frequency Range:** 1400–1600 kHz. **Size:** ¾" x ¾" x 2".

Miller No.	Description	Net Each
12-W1	Input or interstage	$6.00
12-W2	Half-wave output	6.00

J-TRAN PRINTED CIRCUIT IF TRANSFORMERS

Double or single ended tuning. Ground lugs engage P-C board; terminal lugs for soldering. Size: ¾" sq. x 2" h.

Miller No.	Freq.	Use	Net Each
16-PH6	262 kc	Output*	$3.60
16-PC5	455 kc	Output	3.60
6230-PC	44mc	TV Converter	4.80
6231-PC	44mc	TV First IF	4.80
6232-PC	42.5mc	TV Second IF	4.80
6233-PC	45.5mc	TV Third IF	4.80
6234-PC	44mc	TV Fourth IF	4.80
6270-PC	4.5mc	Input or Interstage	4.80
6271-PC	4.5mc	Ratio Detector	6.66

*With diode filter capacitors.

J-TRAN AND K-TRAN HARDWARE

Miller No.	Description	Net Each
181	Adapter plate	$0.60
186-H	3 each 180, 181	1.08
191-S	3½" alignment tool	.90
192-H	3⅞" alignment tool	.90
193-H	5⅛" alignment tool	.90
195-P	1 each 191-S, 192-H, 193-H, 194-K	2.16

TRANSISTOR IF TRANSFORMER

Series 2031—2051 (Fig. D): Miniature type with tuned primary (tapped) and untuned secondary. Size ½" sq. x ¾" h. **Series 1600** Similar to Fig. A. Double tuned for use with transistors at 10.7 mc. Ask for data sheet for proper transistor matching. Size ¾" sq. x 2" h. **Series 1600-PC:** Same as 1600 types, but with printed circuit terminals and shield lugs. **Series 2070 (Fig. F** Subminiature version of 2031 types. Single-tuned IF's ¹³⁄₁₆" sq. x ½" h. Ratio detector (double-tuned) ¹³⁄₁₆" w. x ¾" d. x ½" h. **(Fig. E).**

Miller No.	Description	Net Each
2031	Input, 10K-600 ohms	$4.7
2032	Output, 10K-1K ohms	4.7
2041	Input, 25K-600 ohms	5.1
2042	Output, 25K-1K ohms	5.1
2051	Input, 100K-1K ohms	5.4
1601	10.7 mc, 1st IF	6.6
1602	10.7 mc, 2nd IF	6.6
1603	10.7 mc, 3rd IF	6.6
1604	10.7 mc, discriminator	6.6
1605	10.7 mc, ratio detector with diodes	6.6
1601-PC	10.7 mc, 1st IF	6.6
1602-PC	10.7 mc, 2nd IF	6.6
1603-PC	10.7 mc, 3rd IF	6.6
1605-PC	10.7 mc, ratio detector with diodes	8.6
2071	10.7 mc, 2nd IF	4.8
2072	10.7 mc, 3rd IF	4.8
2073	10.7 mc, ratio detector	4.8

MICROMINIATURE TRANSISTOR IF TRANSFORMER AND MATCHING OSCILLATOR (FIG. F)

Ultra small, rugged and mechanically stable. Sturdy, threaded cup core engages a threaded coil support for tuning. Nos. 2060 thru 2063, ⅜" sq. x ¹⁵⁄₁₆" h. Nos. 2065 thru 2068, ⅜" sq. x ½" h.

Miller No. 2060—Net Each..... $4.8
Miller No. 2062—Net Each..... 4.8
Miller No. 2063—Net Each..... 4.8
All Others—Net Each..... 4.0

Miller No.	Freq., kc	Imped., Ohms	Use
2062	455	30K–500	Interstage
2063	455	20K–5K	Output
2060	.....	78–100 μμf	Oscillator
2066	455	50K–800	Input
2067	455	30K–500	Interstage
2068	455	20K–5K	Output
2065	.....	78–110 μμf	Oscillator

SUBMINIATURE TRANSISTOR IF'S

Imported transformers for transistor operation with excellent impedance matching for top performance and reliability. Size: **8810 thru 8813,** ⅜" sq. x ¹⁵⁄₁₆" h. **885 thru 8854,** ¹³⁄₁₆" sq. x ⅝" h. **All others** ¹³⁄₁₆" x ⅜" x ½" h.

10.7 MC TRANSFORMERS

Miller No.	Specs.	Description	Net Each
8849	500 kc p-p	Ratio detect.	$5.1
8850	300 kc p-p	Discriminator	4.8
8851A	6 db, 300 kc	Dbl.-tuned IF	4.8
8852	100K–300	Sgl.-tuned IF	4.5
8853	20K–500	Sgl.-tuned IF	4.5
8854	25K–500	Sgl.-tuned IF	4.5

455 KC TRANSFORMERS

8805	20 kc p-p	Ratio detect.	$5.0
8806	20 kc p-p	Discriminator	5.0
8807	6 db, 15 kc	Dbl.-tuned IF	5.1
8810	50K–800	Sgl.-tuned IF	4.6
8811	30K–500	Sgl.-tuned IF	4.6
8812	20K–5K	Sgl.-tuned IF	4.6
8813	78–110 μμf	Oscillator	4.8

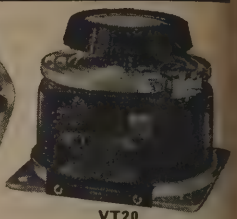
OHMITE® Variable Transformers


VT1, VT02, VT3


VT4, VT8


VT02F


VT8-3


VT20

Six basic physical types meet most industrial requirements with long, maintenance-free life. Excellent regulation at any point within rated load; free from wave-form distortion. Direct-reading 2-scale (1 per side) dial supplied; CCW also available. The space-saving low power types VT1, VT02 and VT3 have adjustable shaft independent of brush assembly, 3-way terminals, instantly replaceable brush contacts and improved heat dissipation. **Mounting:** Easily replace other brands: VT2LN, VT1, VT02 and VT3 have ⅜-32 thd. bushing; VT8 and VT20, 4-hole bolt mount; VT4. 3-hole bolt mount convertible to 4-hole with adapter plate. **Enclosed Types:** Gray hammertone cases. Units with suffix **B** have exposed terminal panel and mounting base; **E,** fixed type for table or panel mounting; **F,** portable with cord, outlet socket and fuse; **G,** deluxe portable with handle, circuit breaker and switch for overvoltage selection. **Other Options:** All types except VT2LN offer shafts, extendable from brush or base side; Most single cased and uncased VT4, VT8 and VT25 units for 120 volt operation are UL Recognized. Consult factory.

SINGLE TRANSFORMERS

Ohmite Number	Input Volts	Input Hz	Max. Output Amps	Max. Output Volts	Feature or Connection	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-9	10-24	25-99	100 Up
UNCASED, SINGLE-PHASE TRANSFORMERS											
VT1	120	60†	1.0	0–120/132	Low power, space saver	2⅞ dia. x 1 13/16 d.	1.5	$20.95	$18.86	$16.76	$15.11
VT1N	120	60	1.2	0–120	Same, no overvoltage	2¼ dia. x 1 13/16 d.	1.5	20.95	18.86	16.76	15.11
VT02	120	60†	1.75	0–120/132	Low power, space saver	2¼ dia. x 2 5/16 d.	2.25	19.30	17.37	15.44	13.89
VT02N	120	60	2.0	0–120	Same, no overvoltage	2¼ dia. x 2 5/16 d.	2.25	19.30	17.37	15.44	13.89
VT2LN	40	60	5.0	0–40	High amps, low volts	2 13/16 dia. x 2 1/16 d.	2.4	25.31	22.76	20.23	18.20
VT3	120	60†	2.6	0–120/132	Low power, space saver	2¼ dia. x 2 13/16 d.	3.0	22.27	20.07	17.81	16.04
VT3N	120	60	3.0	0–120	Same, no overvoltage	2⅞ dia. x 2 13/16 d.	3.0	22.27	20.07	17.81	16.04
VT4LN	40	50	12.0	0–40	High amps low volts	4 5/32 x 4¾ x 4 13/16	5.25	40.18	36.16	32.14	28.94
VT5	120	60†	4.75	0–120/140	Basic 4.75 amp model	3 9/16 dia. x 3 5/16 d.	5.25	33.30	29.99	26.63	23.98
VT8LN	40	50	22.0	0–40	High amps, low volts	4⅞ x 5¾ x 5 1/16	10.25	50.27	45.26	40.25	36.21
VT10	120	60†	10.0	0–120/140	Basic 10-amp model	4⅞ dia. x 4½ d.	10.25	45.20	40.69	36.16	32.53
VT10H	240‡	60†	4.0	0–240/280	240 V input w/120 V tap	4⅞ dia. x 4½ d.	10.25	50.27	45.26	40.25	36.21
VT25	120	60†	25.0	0–120/140	Basic 25-amp model	7½ dia. x 4½ d.	22.0	129.55	116.59	103.64	93.27
VT25B	120	60†	25.0	0–120/140	Partial enclosure	7⅝ x 8¼ x 4⅞	22.5	141.12	126.79	112.90	101.60
VT25H	240‡	60†	11.0	0–240/280	240 V input w/120 V tap	7½ x 4½ x 8 1/16	22.0	133.40	120.07	106.72	96.03
VT25HB	240‡	60†	11.0	0–240/280	Partial enclosure	7⅝ x 4⅞ x 8⅛	21.5	151.04	135.94	120.83	108.76
CASED, SINGLE-PHASE TRANSFORMERS											
VT1E	120	60†	0.8	0–120/132§	Fixed mounting	3⅛ x 2½ x 4¼	1.9	$33.68	$30.02	$26.95	$24.26
VT1NE	120	60	1.0	0–120	Fixed mounting	3⅛ x 2½ x 4¼	1.9	33.68	30.02	26.95	24.26
VT1F	120	60†	1.0	0–132#	Portable	3⅛ x 2½ x 4¼	2.3	38.92	36.01	31.14	28.00
VT1NF	120	60	1.2	0–120	Portable	3⅛ x 2½ x 4¼	2.3	38.92	36.01	31.14	28.00
VT02NE	120	60	1.6	0–120	Fixed mounting	3⅛ x 2½ x 4¼	2.8	30.87	27.78	24.70	22.27
VT02F	120	60†	1.75	0–132#	Portable	3⅛ x 2½ x 4¼	3.2	35.11	31.58	28.12	25.31
VT02NF	120	60	2.0	0–120	Portable	3⅛ x 2½ x 4¼	3.2	35.11	31.58	28.12	25.31
VT5E	120	60†	4.75	0–120/140	Fixed mounting	3 9/16 x 3¾ x 4¼	5.25	47.63	42.89	38.09	34.29
VT5F	120	60†	4.75	0–120/140	Portable	3 9/16 x 3⅛ x 4¼	5.25	52.31	47.08	41.84	37.65
VT10E	120	60†	10.0	0–120/140	Fixed mounting	4⅞ x 4½ x 5 1/16	10.25	53.37	53.48	47.52	42.72
VT10F	120	60†	10.0	0–120/140	Portable	5 17/32 x 5¼ x 7⅜	13.8	63.01	56.72	50.39	45.37
VT10G	120	60†	10.0	0–120/140	Deluxe portable	5 3/16 x 5¼ x 7⅜	14.2	70.34	63.28	56.28	50.66
VT25E	120	60†	25.0	0–120/140	Fixed mounting	7½ x 4½ x 8 1/16	22.0	176.40	158.76	141.12	127.01
VT25F	120	60†	25.0	0–120/140	Portable	8¼ x 5½ x 11¼	31.0	198.18	178.33	158.54	142.66
VT25G	120	60†	20.0	0–120/140	Deluxe portable	7¾ x 5½ x 11¼	31.0	227.67	204.90	182.13	163.95
VT25HE	240‡	60†	11.0	0–240/280	Fixed mounting	7⅝ x 4⅞ x 8 1/16	21.5	180.54	162.51	144.43	129.99
VT25HF	240‡	60†	11.0	0–240/280	Portable	8¼ x 5½ x 11¼	31.0	202.15	181.91	161.74	145.53

†Use also at 50 Hz if connected for no overvoltage output. ‡With 120 V input tap at which the max. current output rating applies up to 120 volts, but reduces approx. 50% at max. output voltage shown. In tandem units, the use of low voltage inputs would correspondingly derate current at higher output voltages. §User wires for desired output; dial normally calibrated for overvoltage. #Factory-connected for overvoltage output; easily re-connected by user for no overvoltage.

TRANSFORMER ACCESSORIES

EXTRA DIALS

Ohmite No. Rotation of CW	Ohmite No. Rotation of CCW	For Type	Dial Calibration	Net Each, Lots of 1-9	10-49	50-Up
5005	....	VT1, VT02, VT3	0–120, 0–132	$0.71	$0.57	$0.47
5006	....	VT4, VT5, VT8, VT10	0–120, 0–140	1.50	1.20	.98
....	**5008**	VT4, VT5, VT8, VT10	0–120, 0–140	1.10	.88	.71
5009	....	VT4, VT5, VT8, VT10	0–240, 0–280	1.50	1.20	.98
....	**5010**	VT4, VT5, VT8, VT10	0–240, 0–280	5.91	4.71	3.84
5011	....	VT1, VT02, VT2LN, VT3	0–100, 100–0*	1.10	.88	.71
5012	....	VT4, VT8	0–100, 100–0*	2.30	1.84	1.50
5013	....	VT20, VT25	0–120, 0–140	3.10	2.48	2.02
....	**5014**	VT20, VT25	0–120, 0–140	2.65	2.12	1.72
5015	....	VT20, VT25	0–240, 0–280	4.49	3.60	2.92
....	**5016**	VT20, VT25	0–240, 0–280	3.31	2.65	2.15
5017	....	VT20	0–100, 100–0*	3.31	2.65	2.15
5018	....	VT4, VT8	0–480, 0–560	4.49	3.60	2.92
5019	....	VT1, VT02, VT02LN, VT3	0–240, 0–264	3.31	2.65	2.15

*Percent-of-output dial, supplied with "LN" types.

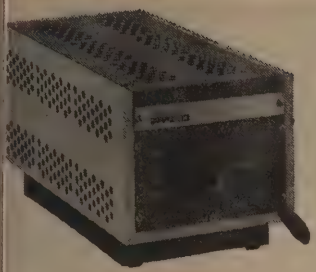
EXTRA KNOBS FOR UNCASED UNITS

Ohmite No.	For Transformer Series	Net Each, Lots of 1-9	10-49	50 Up
5155	VT4, VT5, VT8 & VT10 types	$ 2.56	$ 2.18	$ 1.67
5157	VT20 & VT25 types	11.94	10.15	7.75
5158	VT1, VT02, VT2LN, VT3 types	2.24	1.82	1.39

BRUSH CONTACT ASSEMBLIES

Ohmite No.	For Transformer Type	Net Each, Lots of 1-9	10-24	25-99	100 Up
6507	VT1, VT1N, VT02, VT02N, VT3, VT3N	$1.85	$1.68	$1.53	$1.39
6517	VT2LN	3.71	3.32	2.92	2.78
6518	VT4LN	3.71	3.32	2.92	2.78
6515	VT4 except VT4LN; VT5; VT8 except H, HN or LN	2.38	2.25	2.18	2.04
6516H	VT10H	2.33	2.08	1.93	1.74
6519	VT8LN	4.63	4.36	4.08	3.93
6594	VT20, VT20N, VT25	6.81	6.54	6.17	5.89
6596	VT20H, VT20HN, VT25H	4.89	4.41	4.16	3.68

SOLA ELECTRIC MINI-COMPUTER REGULATORS UL LISTED



The Sola Micro/Mini Computer Ultra Isolated Regulator provides instantaneous voltage regulation, and ultra isolation from both transverse and common mode noise for any type of load. It also suppresses transients, protects against overloads and serves as a portable dedicated line. It is the ultimate in AC line conditioning equipment. The Sola "Micro/Mini" is particularly applicable in systems involving mini or micro computers, POS equipment, microprocessors, or data terminals, where noise and transients cause errors, or low voltage and short term disruptions can result in loss of memory. The output waveshape is sinusoidal and contains less than 3% harmonic distortion, making it ideal for any electronic load. Common mode noise rejection exceeds 120 dB for the regulator, while transverse noise rejection is better than 60 dB; true ultra isolation. Brownout protection is a real bonus feature. Input line voltage variations as great as ±15% are instantaneously regulated to a maximum output deviation of ±3%. And, the output will remain within NEMA voltage specifications for input voltages as low as 65% of nominal. Especially designed for office type environments, the Sola "Micro/Mini" is truely portable and has a low sound level of 43 dB.

PORTABLE

60 Hz Single Phase: Nominal Output Voltage, 120 V. Input Voltage Range, 95–130 V. Units will operate at lower voltage. **50 Hz Single Phase:** Nominal Output Voltage, 220 V. Input Voltage Range, 180–260 V. Units will operate at lower voltage.

60 Hz Single Phase—UL Listed

Output Max. VA Rating	Output Nom. Volts	Input† Voltage Range	Sola No.	Approx. Ship. Wt. (Lbs.)	Dimensions (Inches) Figure #1 A	B	C	Net Each
70	120	95–130	63-13-070	10	11.65	5.58	5.80	$150.00
140	120	95–130	63-13-114	18	11.65	5.58	5.80	196.60
250	120	95–130	63-13-125	31	13.25	7.70	7.05	234.00
500	120	95–130	63-13-150	47	16.24	8.50	8.22	324.50
750	120	95–130	63-13-175	60	16.24	8.50	8.22	413.95
1000	120	95–130	63-13-210	75	16.24	8.50	8.22	479.45
2000*	120	95–130	63-13-226	108	16.50	10.96	10.34	815.40

50 Hz Single Phase—Not UL Listed

70	220	180–260	63-13-570	10	11.65	5.58	5.80	$172.50
140	220	180–260	63-13-614	21	13.25	7.70	7.05	225.00
250	220	180–260	63-13-625	33	13.25	7.70	7.05	270.00
500	220	180–260	63-13-650	45	16.24	8.50	8.22	383.00
1000	220	180–260	63-13-710	72	16.24	8.50	8.22	555.00
2000*	220	180–260	63-13-720	113	16.50	10.96	10.34	947.00

*30 Amp twist receptacle. †For ±3% output regulation. Unit will operate at lower voltage

Figure #1

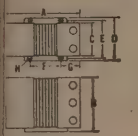


Figure #2

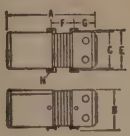


Figure #3

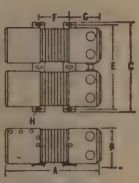


Figure #4

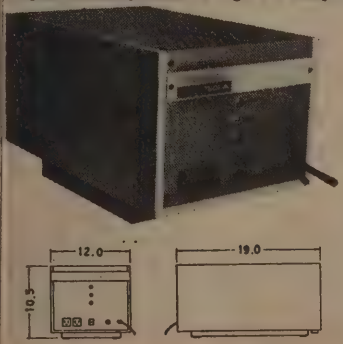
HARD WIRED—UL LISTED 60 Hz SINGLE PHASE

Sola No.	Dimensions, Inches A	B	C	D	E	F	G	H
63-23-112-4	8.62	5.19	3.13	4.00	3.50	3.00	2.44	0.22 x 0.59
63-23-125-4	9.88	7.44	4.50	5.38	4.75	4.12	2.44	0.31 x 0.69
63-23-150-4	14.38	6.44	7.78	9.00	8.12	5.62	3.06	0.38 x 0.81
63-23-175-4	15.38	6.44	7.78	9.00	8.12	5.62	3.06	0.38 x 0.81
63-23-210-4	16.25	6.44	7.78	9.00	8.12	5.62	3.06	0.38 x 0.81
63-23-215-4	18.44	9.03	10.56	....	11.75	3.00	5.19	0.44 x 0.69
63-23-220-4	19.31	9.03	10.56	....	11.75	3.88	5.19	0.44 x 0.69
63-25-230-3	20.69	9.03	10.56	....	11.75	5.25	5.19	0.44 x 0.69
63-26-230	20.69	9.03	10.56	....	11.75	5.25	5.19	0.44 x 0.69
63-25-250	19.88	9.03	25.81	....	24.81	4.44	5.19	0.44 x 0.69
63-26-250	19.88	9.03	25.81	....	24.81	4.44	5.19	0.44 x 0.69
63-28-275	19.88	9.38	38.25	....	37.22	4.44	5.19	0.56 x 0.69

SPECIFICATIONS AND PRICING

Sola No.	Voltage Rating Regulated Output	Input Range	VA	App. Ship. Wt. (Lbs.)	Fig. No.	Net Each, Lots of 1-4	5-9	10-24	25-49
63-23-112-4	120	95–130 x 175–235 x 190–260 x 380–520	120	16	2	$ 152.90	$ 143.75	$ 139.16	$ 134.60
63-23-125-4			250	27	2	200.75	188.75	182.70	176.70
63-23-150-4			500	34	2	307.85	289.40	280.15	270.95
63-23-175-4			750	44	2	391.05	367.60	355.90	344.15
63-23-210-4			1000	55	2	468.00	439.95	425.90	411.85
63-23-215-4			1500	83	3	629.20	591.45	572.60	553.70
63-23-220-4			2000	98	3	796.65	748.90	724.95	701.10
63-25-230-3	120 x 240	95–130 x 175–235 x 190–260	3000	127	3	1179.40	1108.65	1073.25	1037.90
63-26-230		190–260 x 380–520	3000	127	3	1179.40	1108.65	1073.25	1037.90
63-25-250		95–130 x 175–235 x 190–260	5000	215	4	1843.95	1733.35	1678.00	1622.70
63-26-250		190–260 x 380–520	5000	215	4	1843.95	1733.35	1678.00	1622.70
63-28-275		190–260 x 380–520	7500	232	†	2268.25	2132.20	2064.15	1996.10

Triplex assembly, same as Figure 4 except addition of one more transformer.



SOLA MINI UPS

A true UPS always between the AC line and critical load providing complete protection from brownouts and blackouts as well as line noise and transients. Output waveshape is sinusoidal with less than 3% single harmonic and 5% total harmonic distortion. Regulated output is ±3% when operating from either AC line or battery. Handles load surges and fault clearing providing 125% overload for 1 minute, 150% overload for 10 cycles and 200% into short circuit with 2 automatic restrikes before shutdown. Maintenance-free battery automatically recharges upon return of AC line. Oper. Temp. 0° C to 40° C. Especially designed for small, sensitive electronic equipment such as minicomputers, data terminals, P.O.S. systems. Units measure 12" x 19" x 10.5".

SPECIFICATIONS AND PRICING

Sola No.	Output VA (0.8 pF)	Battery Time	Cooling	Input Volts	Input Hertz	Wt. (Lbs.)	Net Each
26-00-50400-3000	400	10 Min.	Convection	120	60	85	$1239.00
26-00-50400-3001	400	20 Min.	Convection	120	60	100	1263.00
26-00-50750-3000	750	10 Min.	Fan	120	60	120	1344.00
26-29-50300-3000	300	12 Min.	Convection	240	50	100	1363.00
26-29-50300-3001	300	24 Min.	Convection	240	50	115	1390.00
26-29-50600-3000	600	12 Min.	Fan	240	50	135	1479.00

Sola Solid Power Supplies

SOLA® SOLIDS PC BOARD DC SUPPLIES

A series regulated solid power supply specifically designed for printed circuit board mounting. Output can be shorted without damaging supply. **Input:** 115 VAC ± 10 VAC, 50–400 Hz. **Output voltage accuracy:** ±2%. **Line/Load regulation:** .02% or 2.5 mV. **Operating temp.:** −25° C to +71° C.

Sola No.	DC Output		PARD	Size		
	Volts	Amps	mVrms	H"	W"	D"
84-05-150	5	.5	1	.875	2.5	3.5
84-05-210	5	1.0	1	1.25	2.5	3.5
84-05-220	5	2.0	1	1.62	2.5	3.5
84-12-110	12	.1	.5	1.0	1.75	2.25
84-15-110	15	.1	.5	1.0	1.75	2.25
84-12-2112	±12	.12 ea.	.5	.875	2.5	3.5
84-12-2124	±12	.24 ea.	.5	1.25	2.5	3.5
84-12-2140	±12	.4 ea.	.5	1.62	2.5	3.5
84-15-2025	±15	.025 ea.	2.0	.875	2.5	3.5
84-15-2110	±15	.1 ea.	.5	.875	2.5	3.5
84-15-2120	±15	.2 ea.	.5	1.25	2.5	3.5
84-15-2135	±15	.35 ea.	.5	1.62	2.5	3.5

Sola No.	Net Each, Lots of			
	1-4	5-9	10-49	50-99
84-05-150	$ 74.70	$ 70.25	$ 65.75	$ 56.80
84-05-210	105.30	99.00	92.70	80.05
84-05-220	134.65	126.60	118.50	102.35
84-12-110	46.25	43.50	40.70	35.15
84-15-110	46.25	43.50	40.70	35.15
84-12-2112	74.70	70.25	65.75	56.80
84-12-2124	105.30	99.00	92.70	80.05
84-12-2140	151.80	142.70	133.60	115.40
84-15-2025	53.00	49.85	46.65	40.30
84-15-2110	74.70	70.25	65.75	56.80
84-15-2120	105.30	99.00	92.70	80.05
84-15-2135	151.80	142.70	133.60	115.40

CHASSIS MOUNT POWER MODULE

Convenient, direct chassis mount. Easy terminal strip connections. Low cost, off-the-shelf delivery. The 85 Series chassis-mount modular power supplies are designed for applications where printed circuit mounting is impractical or undesirable. Total epoxy encapsulation is an advantage where vibration or adverse atmospheric conditions exist. The convenience of threaded insert mounting and terminal strip connections allows easy prototyping and efficient one-shot design work.

Output Voltage (V)	Output Current (mA)	Source Effect Max.	Load Effect Max.	PARD (mV)	Sola Number
5	1000	±0.05%	±0.15%	2	85-05-210*
5	2000	±0.05%	±0.15%	2	85-05-220*
±12	240	±0.05%	±0.05%	1	85-12-2124
±12	400	±0.05%	±0.05%	1	85-12-2140
±15	100	±0.05%	±0.05%	1	85-15-2110
±15	200	±0.05%	±0.05%	1	85-15-2120
±15	350	±0.05%	±0.05%	1	85-15-2135
±15	500	±0.05%	±0.05%	1	85-15-2150

*With overvoltage protection; overvoltage crowbar set to trip at 6.2 V nominal.

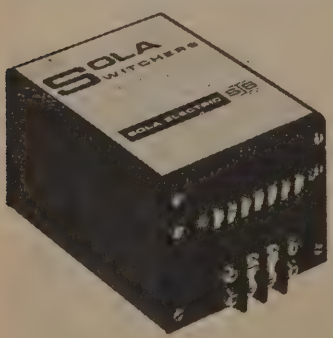
PRICING

Sola Number	Net Each, Lots of			
	1-4	5-9	10-49	50-99
85-05-210	$121.35	$114.10	$106.80	$ 92.25
85-05-220	151.85	142.75	133.65	115.45
85-12-2124	121.35	114.10	106.80	92.25
85-12-2140	166.55	156.60	146.60	126.60
85-15-2110	98.60	92.70	86.80	74.95
85-15-2120	121.35	114.10	106.80	92.25
85-15-2135	166.55	156.60	146.60	126.60
85-15-2150	190.45	179.05	167.60	144.75

SOLA DC/DC SOLIDS

DC/DC Solid power supplies series 87 provide line/load regulation while Pi-type input filter minimizes reflected input ripple current. Available in single and dual outputs. **Output Voltage Accuracy:** ±0.5%. **Max. Oper. Temp.:** −25° C to 71° C. **Line Regulation:** ±0.02% full range max. **Load Regulation:** For single output models ±0.04% (NL-FL) max, for dual output models ±0.02% (NL-FL) max.

Sola No.	Input Voltage	Output Voltage	Output Current	Input Current Full Load/ No Load (typical)	Fault Mode Current (typical)	Reflected Ripple Current	Net Each, Lots of			
							1-4	5-9	10-49	50-99
87-99-1210	5 VDC	5 VDC	1000 mA	1540 mA/25 mA	2300 mA	54 mA p-p	$124.05	$116.65	$109.20	$ 94.30
87-98-1160	5 VDC	9 VDC	600 mA	1660 mA/30 mA	2490 mA	58 mA p-p	124.05	116.65	109.20	94.30
87-97-1147	5 VDC	12 VDC	470 mA	1735 mA/30 mA	2600 mA	61 mA p-p	124.05	116.65	109.20	94.30
87-96-1140	5 VDC	15 VDC	400 mA	1845 mA/35 mA	2770 mA	64 mA p-p	124.05	116.65	109.20	94.30
87-97-2123	5 VDC	±12 VDC	±230 mA	1650 mA/132 mA	2475 mA	58 mA p-p	131.90	124.00	116.10	100.25
87-96-2119	5 VDC	±15 VDC	±190 mA	1700 mA/136 mA	2550 mA	60 mA p-p	131.90	124.00	116.10	100.25
87-79-1210	12 VDC	5 VDC	1000 mA	640 mA/14 mA	960 mA	22 mA p-p	124.05	116.65	109.20	94.30
87-78-1160	12 VDC	9 VDC	600 mA	690 mA/15 mA	1035 mA	24 mA p-p	124.05	116.65	109.20	94.30
87-77-1147	12 VDC	12 VDC	470 mA	725 mA/15 mA	1080 mA	26 mA p-p	124.05	116.65	109.20	94.30
87-76-1140	12 VDC	15 VDC	400 mA	770 mA/17 mA	1150 mA	27 mA p-p	124.05	116.65	109.20	94.30
87-77-2123	12 VDC	±12 VDC	±230 mA	690 mA/55 mA	1035 mA	24 mA p-p	131.90	124.00	116.10	100.25
87-76-2119	12 VDC	±15 VDC	±190 mA	710 mA/57 mA	1065 mA	25 mA p-p	131.90	124.00	116.10	100.25
87-59-1210	24 VDC	5 VDC	1000 mA	320 mA/7 mA	480 mA	11 mA p-p	124.05	116.65	109.20	94.30
87-58-1160	24 VDC	9 VDC	600 mA	350 mA/8 mA	525 mA	12 mA p-p	124.05	116.65	109.20	94.30
87-57-1147	24 VDC	12 VDC	470 mA	360 mA/8 mA	540 mA	13 mA p-p	124.05	116.65	109.20	94.30
87-56-1140	24 VDC	15 VDC	400 mA	385 mA/9 mA	580 mA	13 mA p-p	124.05	116.65	109.20	94.30
87-57-2123	24 VDC	±12 VDC	±230 mA	340 mA/27 mA	510 mA	12 mA p-p	131.90	124.00	116.10	100.25
87-56-2119	24 VDC	±15 VDC	±190 mA	350 mA/28 mA	525 mA	12 mA p-p	131.90	124.00	116.10	100.25
87-49-1210	28 VDC	5 VDC	1000 mA	275 mA/7 mA	410 mA	10 mA p-p	124.05	116.65	109.20	94.30
87-48-1160	28 VDC	9 VDC	600 mA	300 mA/8 mA	450 mA	11 mA p-p	124.05	116.65	109.20	94.30
87-47-1147	28 VDC	12 VDC	470 mA	310 mA/8 mA	465 mA	11 mA p-p	124.05	116.65	109.20	94.30
87-46-1140	28 VDC	15 VDC	400 mA	330 mA/9 mA	495 mA	12 mA p-p	124.05	116.65	109.20	94.30
87-47-2123	28 VDC	±12 VDC	±230 mA	290 mA/23 mA	435 mA	10 mA p-p	131.90	124.00	116.10	100.25
87-46-2119	28 VDC	±15 VDC	±190 mA	300 mA/24 mA	450 mA	11 mA p-p	131.90	124.00	116.10	100.25
87-39-1210	48 VDC	5 VDC	1000 mA	160 mA/7 mA	240 mA	22 mA p-p	131.90	124.00	116.10	100.25
87-38-1160	48 VDC	9 VDC	600 mA	170 mA/8 mA	260 mA	24 mA p-p	131.90	124.00	116.10	100.25
87-37-1147	48 VDC	12 VDC	470 mA	180 mA/8 mA	270 mA	25 mA p-p	131.90	124.00	116.10	100.25
87-36-1140	48 VDC	15 VDC	400 mA	190 mA/9 mA	285 mA	27 mA p-p	131.90	124.00	116.10	100.25
87-37-2123	48 VDC	±12 VDC	±230 mA	170 mA/19 mA	255 mA	24 mA p-p	139.70	131.35	122.95	106.20
87-36-2119	48 VDC	±15 VDC	±190 mA	180 mA/20 mA	270 mA	25 mA p-p	139.70	131.35	122.95	106.20



HIGH FREQUENCY POWER SUPPLY SWITCHING REGULATORS

Compact, light-weight units. Convection cooled. High efficiency; 75% at 5 volts output and full load. Low ripple (PARD). Short-circuit proof; for indefinite period. Tracking outputs. Fast load transient recovery. No audible noise. **Regulation:** 0.1% max. for ±10% change in line voltage. Ripple and noise average 35 mVp-p for 5 volt supply with a temperature coefficient of 0.01%/° C typical. **Temperature Range:** 0° C to +71° C; derate 2.5%/° C above 45° C. **Input Voltage Range:** 95–130 VAC (115 VAC nominal) or 180–260 VAC (230 VAC nominal), 47–450 Hz. **Switching Frequency:** 25 kHz at normal load to 2 kHz at short circuit or below 0.5 Ampere load. **Over-Voltage Protection:** Trips at 6.0 volts output; current limited. **Input Isolation:** 50 megohms (900 Vrms minimum breakdown).

Sola Model No.	Input Voltage VAC	Output Voltage VDC	Output Current @ 45° C	PARD mVp-p	Net Each, Lots of			
					1-4	5-9	10-49	50-99
86-05-310	115	4.5–5.5	10 A	25	$289.40	$274.95	$260.50	$246.00
86-05-310-50	230	4.5–5.5	10 A	25	289.40	274.95	260.50	246.00
86-05-320	115	4.5–5.5	20 A	50	427.20	405.85	384.50	363.15
86-05-320-50	230	4.5–5.5	20 A	50	427.20	405.85	384.50	363.15
86-12-2215	115	±11.5–15.5	1.5 A*	3	289.40	274.95	260.50	246.00
86-12-2215-50	230	±11.5–15.5	1.5 A*	3	289.40	274.95	260.50	246.00

*Each side; 3 Amperes total (sum of positive and negative outputs).

Regulated Power Supplies

SERIES REGULATED POWER SUPPLIES
DUAL AND TRIPLE OUTPUTS

mpletely interchangeable power supplies with remote sensing l short circuit protection. **Input:** 120/240 VAC ±10%, 47–420 . **Regulation:** Line and load combined, ±0.1%. **Ripple:** 0.01% s. **Operating temperature:** 0° C to 55° C. **Recovery time:** Less an 50 microseconds.

Sola No.	Output Volts	Output Amps	Net Each, Lots of 1-4	5-9	10-49	50-99
-12-2180	±12	.8	$ 60.55	$ 56.95	$ 53.30	$ 46.05
-15-2170	±15	.7	60.55	56.95	53.30	46.05
-12-2218	±12	1.8	92.75	87.20	81.65	70.50
-15-2216	±15	1.6	92.75	87.20	81.65	70.50
-12-2250	±12	5.0	185.50	174.40	163.25	141.00
-15-2240	±15	4.0	185.50	174.40	163.25	141.00
-12-3218	±12	1.8	152.00	142.90	133.80	115.55
	5	6.0				
-15-3216	±15	1.6	152.00	142.90	133.80	115.55
	5	6.0				

MICROPROCESSOR POWER SUPPLIES

regulated power supplies with fully isolated, independent outts for either positive or negative operation. Designed to operate st of the microprocessors on the market today. Versatile ckaging allows vertical or horizontal mounting in a rack or on e bench. Outputs can be connected in series or parallel. Cometely protected short circuit proof; automatic current limiting; ervoltage protection available for all outputs—standard on 5 V outputs. **Input Voltage Range:** 104–127/208–254 VAC. **put Frequency Range:** 50–400 Hz (derate load 75% at 400 Hz). **utput Ripple:** 0.05% peak-to-peak, 0.01% rms. **Regulation ne and Load Combined:** ±0.1%. **Output Noise:** 0.01% rms 0 MHz bandwidth). **Input/Output Isolation:** 1000 megohms C, 2500 VAC. **Temperature Coefficient:** 0.01%/°C. **Overvoltage otection:** Standard on all +5 V outputs; optional on others. **olarity:** May be used either positive or negative. **Operating mperature:** 0° C to +55° C without derating; −20° C to 80° C with performance derating (consult factory). **Storage mperature:** −40° C to +85° C. **Recovery Time:** Less than 50 icroseconds from half-load to full load. **Minimum Output djustment Range:** ±5% at full rated load. **Maximum Output urrent:** 120% of rated current. **Maximum Short Circuit Curnt:** 30% of rated current. **Maximum Allowable Lead Drop for emote Sensing:** 5%.

Sola No.	Output Volts	Output Amps	Net Each, Lots of 1-4	5-9	10-49	50-99
3-05-230-2	5	3.0	$ 42.40	$ 39.90	$ 37.35	$ 32.25
3-05-260-2	5	6.0	87.20	82.00	76.75	66.30
3-12-218-2	12	1.8	42.40	39.90	37.35	32.25
3-15-216-2	15	1.6	42.40	39.90	37.35	32.25
3-12-250-2	12	5.0	87.20	82.00	76.75	66.30
3-15-240-2	15	4.0	87.20	82.00	76.75	66.30
3-81-2225	+5	2.5	63.50	59.70	55.90	48.30
	+9 to +12	0.5				
3-82-2230	+5	3.0	63.50	59.70	55.90	48.30
	−5	0.1				
3-81-2250	+5	5.0	112.90	106.15	99.40	85.85
	+9 to +12	0.8				
3-82-2250	+5	5.0	112.90	106.15	99.40	85.85
	−5	0.1				
3-83-3225	+5	2.5	98.90	93.00	87.05	75.20
	+9 to +12	.25				
	−9 to −12	.25				
3-84-3225	+5	2.5	98.90	93.00	87.05	75.20
	+9 to +12	.25				
	−5	0.1				
3-83-3250	+5	5.0	125.60	118.10	110.55	95.50
	+9 to +12	0.5				
	−9 to −12	0.5				
3-84-3250	+5	5.0	125.60	118.10	110.55	95.50
	+9 to +12	0.5				
	−5	0.1				

OVERVOLTAGE PROTECTION

low-cost option for Sola Class 81 and 83 power supplies.

Power Supply	Overvoltage Protection	Sola Number	Net Each, Lots of 1-4	5-9	10-49
15 Watts	5 V/6 V	999-226-5	$12.85	$12.10	$11.35
	12 V/15 V	999-226-12	12.85	12.10	11.35
	24 V	999-226-24	12.85	12.10	11.35
30 Watts	5 V	999-219-5	12.85	12.10	11.35
	12 V	999-219-12	12.85	12.10	11.35
	15 V	999-219-15	12.85	12.10	11.35
	24 V	999-219-24	12.85	12.10	11.35
60 Watts	5 V	999-189-5	19.60	18.45	17.25
	12 V	999-189-12	19.60	18.45	17.25
	15 V	999-189-15	19.60	18.45	17.25
	24 V	999-189-24	19.60	18.45	17.25
120 Watts	12 V	999-189-12	19.60	18.45	17.25
	15 V	999-189-15	19.60	18.45	17.25
	24 V	999-189-24	19.60	18.45	17.25
	48 V	999-189-48	19.60	18.45	17.25

OEM SERIES MODULAR SUPPLIES

Series regulated DC supplies for bench or rack use in powering computers, data processing, process control, electronic measuring, telemetering and others. Completely protected short-circuit proof with automatic current limiting. Convection cooled. Complete serviceability. Remote sensing. **Input:** 108–132 or 216–264 VAC, 50–400 Hertz. **Regulation:** ±.05%, line or load. **Ripple:** 10 mV rms. **Operating Temperature:** 0° C to +55° C. **Recovery Time:** Less than 50 microseconds. Optional crowbar protection devices are available for this series; ask for pricing and availability UL listed.

Sola No.	Input Voltage	Output Voltage Range	Output Current Amps	Net Each, Lots of 1-4	5-9	10-49
15 WATT SERIES						
81-05-230-1	115	5–6	3.0–2.5	$ 36.95	$ 34.75	$ 32.55
81-12-218-1	115	12–15	1.5–1.2	36.95	34.75	32.55
81-24-180-1	115	24	0.8	36.95	34.75	32.55
30 WATT SERIES						
83-05-230-2	230	4.8–5.5	3.0	$ 42.40	$ 39.90	$ 37.35
83-12-218-2	230	11.5–12.5	1.8	42.40	39.90	37.35
83-15-216-2	230	1415–15.5	1.6	42.40	39.90	37.35
83-24-212-2	230	23–25	1.2	42.40	39.90	37.35
60 WATT SERIES						
83-05-260-2	115	4.8–5.5	6.0	$ 87.20	$ 82.00	$ 76.75
83-12-250-2	115	11.5–12.5	5.0	87.20	82.00	76.75
83-15-240-2	115	14.5–15.5	4.0	87.20	82.00	76.75
83-24-225-2	115	23–25	2.5	87.20	82.00	76.75
120 WATT SERIES						
83-05-312-2	115	4.8–5.5	12.0	$132.05	$124.15	$116.25
83-12-310-2	115	11.5–12.5	10.0	132.05	124.15	116.25
83-15-288-2	115	14.5–15.5	8.0	132.05	124.15	116.25
83-24-260-2	115	23–25	6.0	132.05	124.15	116.25
83-48-230-2	115	46–50	3.0	132.05	124.15	116.25

CVDC SERIES CONSTANT VOLTAGE SUPPLIES

Rugged, simple and dependable power supplies in both modular and rack-mounted styles. Designed for computers, data processing, measurement, telemetering and wherever isolation from line fluctuation is required. Contains a constant-voltage transformer, rectifier and filter circuit. Provides tight regulation, quick response, isolation and current limiting. **Regulation:** ±1% or less for input variations as great as ±15%. **Rated Input Voltage:** 100-130 volts, 60 Hz. **Response Time:** 25 milliseconds. **Load Regulation:** Less than 4% from 20% to full load. **Efficiency:** Approx. 75%. **Ripple:** Less than 1%. **Operating Temperature:** 0° C to +50° C. Units may be connected in series or parallel for higher current or voltage.

MODULAR STYLE

Sola Number	Output V.	Output A.	% Load Regulation 25% f.l.	50% f.l.	Size, Inches H.	W.	D.	Net Each
28-04-315	4	15	0.8	0.5	3.5	5.25	13	$158.00
28-05-315	5.2	15	0.8	0.5	3.5	5.25	13	158.00
28-06-315	6.3	15	0.8	0.5	3.5	5.25	13	158.00
28-10-312	10	12	1.0	0.6	3.5	5.25	13	158.00
28-12-310	12	10	1.0	0.6	3.5	5.25	13	158.00
28-15-280	15	8	1.3	0.8	3.5	5.25	13	158.00
28-18-267	18	6.7	1.3	0.8	3.5	5.25	13	158.00
28-24-250	24	5	1.7	1.0	3.5	5.25	13	158.00
28-28-243	28	4.3	2.0	1.2	3.5	5.25	13	158.00
28-48-225	48	2.5	3.4	2.0	3.5	5.25	13	158.00
28-04-325	4	25	0.8	0.5	6.9	4.94	9.75	235.00
28-05-325	5.2	25	0.8	0.5	6.9	4.94	9.75	235.00
28-06-325	6.3	25	0.8	0.5	6.9	4.94	9.75	235.00
28-10-318	10	18	1.0	0.6	6.9	4.94	9.75	235.00
28-12-315	12	15	1.0	0.6	6.9	4.94	9.75	235.00
28-15-312	15	12	1.0	0.6	6.9	4.94	9.75	235.00
28-18-310	18	10	1.0	0.6	6.9	4.94	9.75	235.00
28-24-280	24	8	1.2	0.7	6.9	4.94	9.75	235.00
28-28-270	28	7	1.2	0.7	6.9	4.94	9.75	235.00
28-48-240	48	4	1.7	1.0	6.9	4.94	9.75	235.00

RACK MOUNTING STYLE

Sola Number	Output V.	Output A.	% Load Regulation 20% f.l.	50% f.l.	Size, Inches H.	W.	D.	Net Each
28-1513-2	6	10	9	7	3½	.....	7½	$277.00
28-2123-1	6	15	10	7	5¼	.....	7¼	320.00
28-1514-2	12	5	7	5	3½	.....	7½	277.00
28-2124-1	12	10	9	5	5¼	.....	7¼	277.00
28-1845-2	12	15	10	7	5¼	.....	7¼	320.00
28-1515-2	18	5	5	4	3½	.....	7½	277.00
28-2125-1	18	10	7	5	5¼	.....	7¼	320.00
28-1024-1	24	6	5	4	5¼	.....	9¾	277.00
28-2126-1	24	10	6	4	5¼	.....	8¾	320.00
28-1203-2	24	15	7	5	7	.....	7¼	344.00
28-2127-1	24	25	7	5	8¾	.....	9	448.00
28-626-2	28	8	6	4	5¼	.....	8¾	320.00
28-2128-1	28	15	7	5	7	.....	7¼	344.00
28-1048	48	4	3.5	2.5	5¼	.....	9¾	277.00
28-1561-2	48	10	4	2	5¼	.....	9¾	320.00
28-2129-1	48	20	4	2.5	8¾	.....	9¾	448.00
28-1125-1	125	2	2.5	1.5	5¼	.....	9¾	320.00
28-1150-1	150	2	2	1.5	5¼	.....	9¾	320.00
28-1200	200	1	3	2	5¼	.....	9¾	320.00
28-1250	250	1	3	2	5¼	.....	9¾	320.00

SOLA ELECTRIC HARMONIC NEUTRALIZED TRANSFORMERS

CVS HARMONIC NEUTRALIZED TYPE

Contains less than 3% total harmonic content in output at full load operation. Recommended for all AC applications where harmonics can affect operation. Only constant-voltage transformers with built-in harmonic neutralizing circuits. Use no filters; do not need extra capacitors or noisy chokes. Smaller and more rugged than transformers employing filters for wave-shape improvement. ±½% regulation for an input range of ±15% of nominal range. Due to their low harmonic content and inherent isolation from line, Sola CVS transformers are ideally suited for use with electronic test equipment and mini-computers. All units contain non-PCB components.

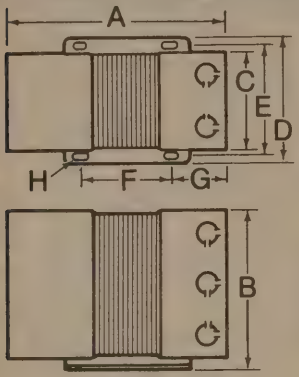


Fig. 1

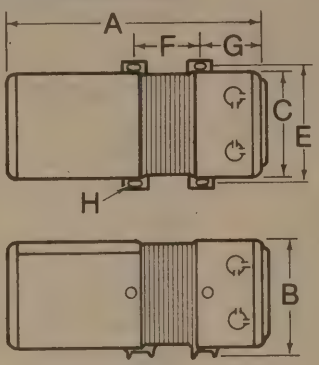


Fig. 2

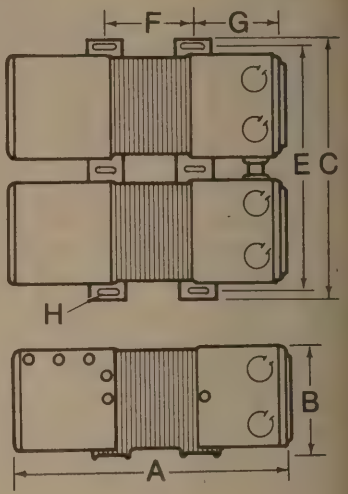


Fig. 3

Reg. Output	Input Range	VA	Sola Number	Fig.	Dimensions, Inches A	B	C	D	E	F	G	H	Each
60 HERTZ, SINGLE PHASE, UL LISTED													
120	95–130	30	23-13-030-2	1	6⅛	5⅜6	3¼	4	3½	3	1¾	7⁄32 x 19⁄32	$ 90.90
	95–130	60	23-13-060-2	1	615⁄16	5⅜6	3¼	4	3½	3	1¾	7⁄32 x 19⁄32	107.15
	190–260 x 380–520	60	23-23-060-2	1	615⁄16	5⅜6	3¼	4	3½	3	1¾	7⁄32 x 19⁄32	116.85
	95–130 x 190–260	120	23-22-112-2	1	8⅛	5⅜6	3¼	4	3½	3	27⁄16	7⁄32 x 19⁄32	138.50
	190–260 x 380–520	120	23-23-112-2	1	8⅛	5⅜6	3¼	4	3½	3	27⁄16	7⁄32 x 19⁄32	146.05
	95–130 x 190–260	250	23-22-125	1	9⅝	7⅜6	4½	5⅜	4¾	4⅛	2⅜6	5⁄16 x 1⅛6	188.25
	190–260 x 380–520	250	23-23-125	1	9⅞	7⅜6	4½	5⅜	4¾	4⅛	2⅜6	5⁄16 x 1⅛6	199.10
	95–130 x 190–260	500	23-22-150	1	127⁄16	6⅜6	7 25⁄32	9	8⅛	5⅜	3⅛6	⅜ x 1⅜6	305.05
120 x 240	190–260 x 380–520	500	23-26-150	1	127⁄16	6⅜6	7 25⁄32	9	8⅛	5⅜	3⅛6	⅜ x 1⅜6	305.05
	95–130 x 175–235 x 190–260	750	23-25-175	1	16⅜6	6⅜6	7 25⁄32	9	8⅛	5⅜	29⁄32	⅜ x 1⅜6	390.50
	95–130 x 175–235 x 190–260	1000	23-25-210	1	17⅞	6⅞	7 25⁄32	9	8⅛	5⅜	4⅛6	⅜ x 1⅜6	477.00
	190–260 x 380–520	1000	23-26-210	1	17⅞	6⅞	7 25⁄32	9	8⅛	5⅜	4⅛6	⅜ x 1⅜6	477.00
	95–130 x 175–235 190–260	1500	23-25-215	2	187⁄16	9½2	10⅜6	...	11¾	3	5⅜6	x 7⁄16 x 1⅛6	641.45
	95–130 x 175–235 190–260	2000	23-25-220	2	195⁄16	9½2	10⅜6	...	11¾	3⅞	5⅜6	7⁄16 x 1⅛6	812.30
	190–260 x 380–520	2000	23-26-220	2	195⁄16	9½2	10⅜6	...	11¾	3⅞	5⅜6	7⁄16 x 1⅛6	812.30
	95–130 x 170–235 190–260	3000	23-25-230-3	2	201⁄16	9⅛6	10⅜6	...	11¾	5¼	5⅜6	7⁄16 x 1⅛6	1126.00
	190–260 x 380–520	3000	23-26-230	2	201⁄16	9½2	10⅜6	...	11¾	5¼	5⅜6	7⁄16 x 1⅛6	1126.00
	95–130 x 175–235 190–260	5000	23-25-250	3	197⁄8	9½2	25 13⁄16	...	24 13⁄16	47⁄16	5⅜6	7⁄16 x 1⅛6	1759.80
	190–260 x 380–520	5000	23-26-250	3	197⁄8	9½2	25 13⁄16	...	24 13⁄16	5⅜6	5⅜6	7⁄16 x 1⅛6	1759.80
	190–260 x 380–520	7500	23-28-275	†	197⁄8	9⅜8	38¼	...	37 7⁄32	47⁄16	5⅜6	7⁄16 x 1⅛6	2164.30

†Triplex assembly; same as Fig. 3, except addition of one more transformer.

50 HERTZ, SINGLE PHASE

110 x 220	90–130 x 180–260	60	24-551-2	1	7¾	5⅜6	3 5⁄16	4	3½	3	27⁄16	7⁄32 x 19⁄32	$ 125.75
	90–130 x 180–260	120	24-552-2	1	813⁄16	7⅞6	4½	5⅜	4¾	4⅛	2⅜6	5⁄16 x 1⅛6	162.10
	90–130 x 180–260	250	24-553-2	1	117⁄16	6⅞6	7 25⁄32	9	8⅛	5⅜	3⅛6	⅜ x 1⅜6	219.45
	90–130 x 180–260	500	24-554-2	1	135⁄16	6⅞6	7 25⁄32	9	8⅛	5⅜	3⅛6	⅜ x 1⅜6	328.55
	90–130 x 180–260	1000	24-555-2	2	187⁄8	9½2	10⅜6	...	11¾	3½	5⅜6	7⁄16 x 1⅛6	567.75
	90–130 x 180–260	2000	24-556-2	2	211⁄16	9½2	10⅜6	...	11¾	5 11⁄16	5⅜6	7⁄16 x 1⅛6	906.20
	90–130 x 180–260	3000	24-557-2	2	27	9½2	10⅜6	...	11¾	8¼	5⅜6	7⁄16 x 1⅛6	1388.60
	90–130 x 180–260	5000	24-572-2	3	223⁄8	9½2	25 13⁄16	...	24 13⁄16	7	5⅜6	7⁄16 x 1⅛6	2178.30



CORD/RECEPTACLE ADAPTER KITS

Adapter kits may be used when the convenience of input plug and output receptacle is preferred to the standard arrangement of terminals in the transformer housing.

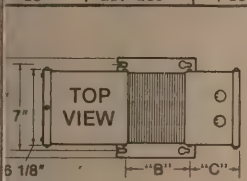
Adapter Code	Sola No.	Input Cord	Output Connections	Net Each
n	999-105	2-Wire	2-Wire receptacle	$13.25
n	999-019	3-Wire	3-Wire receptacle	12.15

SOLA ELECTRIC — SOLATRON/ACUVOLT LINE VOLTAGE REGULATORS

SOLATRON/ACUVOLT 0.5% LINE-VOLTAGE REGULATORS

...e Solatron/Acuvolt LVR static-magnetic line voltage regulator ...mbines fast response, "tight" regulation, adjustable output, re...ote sensing and high KVA capacity, using no moving parts. **Reg...ation:** ±0.5% for line changes; ±1% max. for any combination of line, load, temperature and frequency changes within limit... **Variation Limits:** Frequency, 57–63 Hz, zero load to full load... temperature, +15° to +40°. **Output Voltage:** Adjustable ±10% of nominal output.

Max. Output KVA	Output Volts	Input Voltage Range	Sola Number	Fig.	Dimensions, Inches A	B	C	D	E	Shpg. Wt. Lbs.	Net Each
SINGLE PHASE—60 Hz ±3 Hz											
0.5	108–132	+10–20%	33-16-150	A	13⅞	5⅜	3½	....	....	40	$ 894.00
1	108–132	+10–20%	33-16-210	A	16⅜	5⅜	3½	....	....	58	980.00
1	216–264	+10–20%	33-26-210	A	16⅜	5⅜	3½	....	....	58	980.00
2	108–132	+10–20%	33-16-220-6	B	18⅝	6¼	....	....	....	81	1311.00
2	208–250	+10–20%	33-26-220-6	B	18⅝	6¼	....	....	....	81	1311.00
3	108–132	+10–20%	33-16-230-6	B	19½	6¼	....	....	....	95	1508.00
3	208–250	+10–20%	33-26-230-6	B	19½	6¼	....	....	....	95	1508.00
5	108–132	+10–20%	33-16-250-6	B	21⅜	8¼	....	....	....	127	1964.00
5	208–250	+10–20%	33-26-250-6	B	21⅜	8¼	....	....	....	127	1964.00
5	432–528	+10–20%	33-46-250-6	B	21⅜	8¼	....	....	....	127	1964.00
7.5	108–132	+10–20%	33-16-275-6	B	23¾	10¼	....	....	....	168	2433.00
7.5	208–250	+10–20%	33-26-275-6	B	23¾	10¼	....	....	....	168	2433.00
7.5	432–528	+10–20%	33-46-275-6	B	23¾	10¼	....	....	....	168	2433.00
10	108–132	+10–20%	33-16-310-6	B	23¾	10¼	....	....	....	193	2619.00
10	208–250	+10–20%	33-26-310-6	B	23¾	10¼	....	....	....	193	2619.00
10	432–528	+10–20%	33-46-310-6	B	23¾	10¼	....	....	....	193	2619.00
15	108–132	+10–20%	33-16-315	C	23⅝	9	....	....	....	400	2853.00
15	188–228	+10–20%	33-06-315	C	23⅝	9	....	....	....	400	2853.00
15	216–264	+10–20%	33-26-315	C	21 15/16	7⅜	....	....	....	400	2853.00
15	432–528	+10–20%	33-46-315	C	22 7/16	7 13/16	....	....	....	400	2853.00
25	108–132	+10–20%	33-16-325	C	31⅝	9¾	....	....	....	520	4182.00
25	188–228	+10–20%	33-06-325	C	31⅝	9¾	....	....	....	520	4182.00
25	216–264	+10–20%	33-26-325	C	31⅝	9¾	....	....	....	520	4182.00
25	432–528	+10–20%	33-46-325	C	31⅝	9¾	....	....	....	520	4182.00
33	108–132	±10%	31-16-333-5	E	42	34	28	21	20	700	5734.00
33	216–264	±10%	31-26-333-5	E	42	34	28	21	20	700	5734.00
33	432–528	±10%	31-46-333-5	E	42	34	28	21	20	700	5734.00
37.5	108–132	±10%	31-16-337	C	24⅜	9¾	....	....	....	525	5268.00
37.5	216–264	±10%	31-26-337	C	24⅜	9¾	....	....	....	525	5268.00
37.5	432–528	±10%	31-46-337	C	24⅜	9¾	....	....	....	525	5268.00
50	114–126	±10%	31-16-350-5	E	42	34	28	21	20	1050	6227.00
50	228–252	±10%	31-26-350-5	E	42	34	28	21	20	1050	6227.00
50	456–504	±10%	31-46-350-5	E	42	34	28	21	20	1050	6227.00
75	114–126	±10%	31-16-375-5	E	55	37	34	21	26	1500	7801.00
75	228–252	±10%	31-26-375-5	E	55	37	34	21	26	1500	7801.00
75	456–504	±10%	31-46-275-5	E	55	37	34	21	26	1500	7801.00
100	114–126	±10%	31-16-410-5	E	55	37	34	21	26	1900	9340.00
100	228–252	±10%	31-26-410-5	E	55	37	34	21	26	1900	9340.00
100	456–504	±10%	31-46-410-5	E	55	37	34	21	26	1900	9340.00
150	114–126	±10%	31-16-415-5	E	65	42	38	24	30	2500	11184.00
150	228–252	±10%	31-26-415-5	E	65	42	38	24	30	2500	11184.00
150	456–504	±10%	31-46-415-5	E	65	42	38	24	30	2500	11184.00
200	114–126	±10%	31-26-420-5	E	43	74	48	....	....	3100	12676.00
200	228–252	±10%	31-46-420-5	E	43	74	48	....	....	3100	12676.00
250	228–252	±10%	31-26-425-5	E	43	74	48	....	....	3600	13982.00
250	456–504	±10%	31-46-425-5	E	43	74	48	....	....	3600	13982.00
SINGLE PHASE—50 Hz ±3 Hz											
1	108–132	+10–20%	33-18-210	A	17¼	7⅜	3½	....	....	65	$ 1058.00
1	207–253	+10–20%	33-78-210	A	17¼	7⅜	3½	....	....	65	1058.00
2	108–132	+10–20%	33-18-220-6	B	19	6¼	....	....	....	89	1560.00
2	208–250	+10–20%	33-78-220-6	B	19	6¼	....	....	....	89	1560.00
3	108–132	+10–20%	33-18-230-6	B	20½	6¼	....	....	....	106	1719.00
3	208–250	+10–20%	33-78-230-6	B	20½	6¼	....	....	....	106	1719.00
5	108–132	+10–20%	33-18-250-6	B	22¼	10¼	....	....	....	143	2036.00
5	208–250	+10–20%	33-78-250-6	B	22¼	10¼	....	....	....	143	2036.00
7.5	108–132	+10–20%	33-18-275-6	B	23¾	10¼	....	....	....	189	2696.00
7.5	208–250	+10–20%	33-78-275-6	B	23¾	10¼	....	....	....	189	2696.00
10	108–132	+10–20%	33-18-310	C	20	5⅜	....	....	....	340	2791.00
10	207–253	+10–20%	33-78-310	C	20	5⅜	....	....	....	340	2791.00
15	108–132	+10–20%	33-18-315	C	23⅝	9	....	....	....	465	3379.00
15	207–253	+10–20%	33-78-315	C	22 1/16	8 1/16	....	....	....	465	3379.00



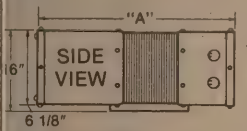
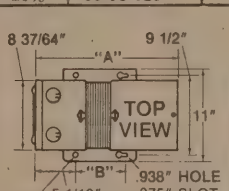


Fig. A



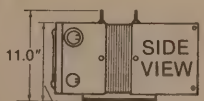
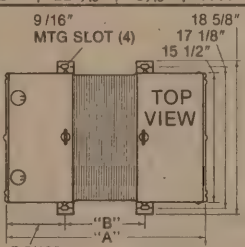


Fig. B



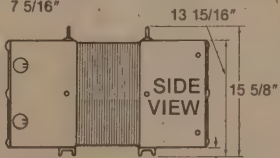


Fig. C

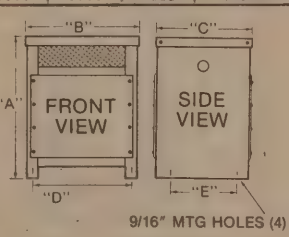


Fig. D

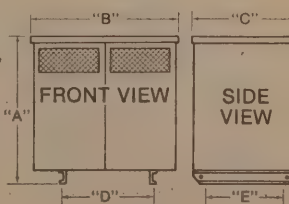


Fig. E

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SOLATRON/ACUVOLT 0.5% LINE-VOLTAGE REGULATORS (CONTINUED)

Max. Output KVA	One Phase Output Volts	Input Voltage Range	Sola Number	Fig.	Dimensions, Inches A	B	C	D	E	Shpg. Wt. Lbs.	Net Each
THREE PHASE WYE—60 Hz ±3 Hz											
1.5	108–132	+10–20%	39-06-215	D	24	19	16	17⅛	11	210	$ 2575.00
3	108–132	+10–20%	39-06-230	D	24	19	16	17⅛	11	265	2843.00
6	108–132	+10–20%	39-06-260-6	D	43	29	19½	26¾	14½	325	3603.00
9	108–132	+10–20%	39-06-290-6	D	43	29	19½	26¾	14½	370	4009.00
15	108–132	+10–20%	39-06-315-6	D	43	29	19½	26¾	14½	452	4918.00
15	250–304	+10–20%	39-46-315-6	D	43	29	19½	26¾	14½	452	4918.00
22.5	108–132	+10–20%	39-06-322-6	D	43	29	19½	26¾	14½	558	5973.00
22.5	250–304	+10–20%	39-46-322-6	D	43	29	19½	26¾	14½	558	5973.00
30	108–132	+10–20%	39-06-330-6	D	43	29	19½	26¾	14½	610	6660.00
30	250–304	+10–20%	39-46-330-6	D	43	29	19½	26¾	14½	610	6660.00
45	108–132	+10–20%	39-06-345	D	51½	36	27	33	16	1300	7866.00
45	250–304	+10–20%	39-46-345	D	51½	36	27	33	16	1300	7866.00
50	114–126	±10%	39-06-375	E	35	36	36½	....	....	1200	10434.00
50	264–290	±10%	39-46-375	E	35	36	36½	....	....	1200	10434.00
75	108–132	+10–20%	37-06-350-5	D	51½	36	27	33	16	1645	9015.00
75	250–304	+10–20%	37-46-350-5	D	51½	36	27	33	16	1645	9015.00
75	114–126	±10%	37-06-375-5	E	46	52½	44½	16½	18	1700	11107.00
75	264–290	±10%	37-46-375-5	E	46	52½	44½	16½	18	1700	11107.00
100	114–126	±10%	37-06-410-5	E	44½	46	52½	....	....	2100	14282.00
100	264–290	±10%	37-46-410-5	E	44½	46	52½	....	....	2100	14282.00
150	114–126	±10%	37-06-415-5	E	54	60	50	19¼	22	3450	17496.00
150	264–290	±10%	37-46-415-5	E	54	60	50	19¼	22	3450	17496.00
225	114–126	±10%	37-06-422-5	E	60	62½	56	21	20	3700	19497.00
225	264–290	±10%	37-46-422-5	E	60	62½	56	21	20	3700	19497.00
300	114–126	±10%	37-06-430-5	E	60	62½	56	21	20	4800	21742.00
300	264–290	±10%	37-46-430-5	E	60	62½	56	21	20	4800	21742.00
500	114–126	±10%	37-06-450-5	E	72	66	60	22¼	26	6000	28081.00
500	264–290	±10%	37-46-450-5	E	72	66	60	22¼	26	6000	28081.00
750	264–209	±10%	37-46-475-5	E	78	80	72	....	....	8100	37738.00
THREE PHASE WYE—50 Hz ±3 Hz											
3	108–132	+10–20%	39-05-230	D	24	19	16	17⅛	11	285	$ 2851.00
3	207–253	+10–20%	39-75-230	D	24	19	16	17⅛	11	285	2851.00
6	108–132	+10–20%	39-05-260-6	D	43	29	19½	26¾	14½	340	3881.00
6	207–253	+10–20%	39-75-260-6	D	43	29	19½	26¾	14½	340	3881.00
9	108–132	+10–20%	39-05-290-6	D	43	29	19½	26¾	14½	385	4254.00
9	207–253	+10–20%	39-75-290-6	D	43	29	19½	26¾	14½	385	4354.00
15	108–132	+10–20%	39-05-315-6	D	43	29	19½	26¾	14½	475	5453.00
15	207–253	+10–20%	39-75-315-6	D	43	29	19½	26¾	14½	475	5453.00
22.5	108–132	+10–20%	39-05-322-6	D	43	29	19½	26¾	14½	530	7111.00
22.5	207–253	+10–20%	39-75-322-6	D	43	29	19½	26¾	14½	530	7111.00
30	108–132	+10–20%	39-05-330	D	51½	36	27	33	16	1135	7500.00
30	207–253	+10–20%	39-75-330	D	51½	36	27	33	16	1135	7500.00
45	108–132	+10–20%	39-05-345	D	51½	36	27	33	16	1495	8991.00
45	207–253	+10–20%	39-75-345	D	51½	36	27	33	16	1495	8991.00
THREE PHASE DELTA—60 Hz ±3 Hz											
1.7	216–264	+10–20%	39-29-217	D	24	19	16	17⅛	11	265	$ 2874.00
3.5	216–264	+10–20%	39-29-235-6	D	43	29	19½	26¾	14½	325	3603.00
5.2	216–264	+10–20%	39-29-252-6	D	43	29	19½	26¾	14½	370	4009.00
8.5	188–228	+10–20%	39-09-285-6	D	43	29	19½	26¾	14½	452	4920.00
8.5	216–264	+10–20%	39-29-285-6	D	43	29	19½	26¾	14½	452	4920.00
8.5	432–528	+10–20%	39-49-285-6	D	43	29	19½	26¾	14½	452	4920.00
13	188–228	+10–20%	39-09-313-6	D	43	29	19½	26¾	14½	508	5973.00
13	216–264	+10–20%	39-29-313-6	D	43	29	19½	26¾	14½	508	5973.00
13	432–528	+10–20%	39-49-313-6	D	43	29	19½	26¾	14½	508	5973.00
17	188–228	+10–20%	39-09-317-6	D	51½	36	27	33	16	1000	6660.00
17	216–264	+10–20%	39-29-317-6	D	51½	36	27	33	16	1000	6660.00
17	432–528	+10–20%	39-49-317-6	D	51½	36	27	33	16	1000	6660.00
26	188–228	+10–20%	39-09-326	D	51½	36	27	33	16	1300	7866.00
26	216–264	+10–20%	39-29-326	D	51½	36	27	33	16	1300	7866.00
26	432–528	+10–20%	39-49-326	D	51½	36	27	33	16	1300	7866.00
43	188–228	+10–20%	30-09-343	D	51½	36	27	33	16	1645	10431.00
43	216–264	+10–20%	39-29-343	D	51½	36	27	33	16	1645	10431.00
43	432–528	+10–20%	39-49-343	D	51½	36	27	33	16	1645	10431.00
50	216–264	±10%	37-29-350-5	E	35	36	36½	....	....	1200	9015.00
50	432–528	±10%	37-49-350-5	E	35	36	36½	....	....	1200	9015.00
65	216–264	±10%	37-29-365	D	51½	36	37	33	16	1660	9445.00
65	432–528	±10%	37-49-365	D	51½	36	37	33	16	1660	9445.00
75	216–264	±10%	37-29-375-5	E	44½	46	52½	....	....	1700	11247.00
75	432–528	±10%	37-49-375-5	E	44½	46	52½	....	....	1700	11247.00
100	216–264	±10%	37-29-410-5	E	44½	46	52½	....	....	2100	14671.00
100	432–528	±10%	37-49-410-5	E	44½	46	52½	....	....	2100	14671.00
150	216–264	±10%	37-29-415-5	E	50	56	60	....	....	2700	17496.00
150	432–528	±10%	37-49-415-5	E	50	56	60	....	....	2700	17496.00
225	216–264	±10%	37-29-422-5	E	56	60	62½	....	....	3700	19497.00
225	432–528	±10%	37-49-422-5	E	56	60	62½	....	....	3700	19497.00
300	216–264	±10%	37-29-430-5	E	56	60	62½	....	....	4500	21742.00
300	432–528	±10%	37-49-430-5	E	56	60	62½	....	....	4500	21742.00
500	216–264	±10%	37-29-450-5	E	72	72	66	....	....	6000	28081.00
500	432–528	±10%	37-49-450-5	E	72	72	66	....	....	6000	28081.00
750	432–528	±10%	37-49-475-5	E	78	80	72	....	....	8100	37738.00
THREE PHASE DELTA—50 Hz ±3 Hz											
1.7	207–253	+10–20%	39-78-217	D	24	19	16	17⅛	11	285	$ 2876.00
3.5	207–253	+10–20%	39-78-235-6	D	43	29	19½	26¾	14½	423	3926.00
5.2	207–253	+10–20%	39-78-252-6	D	43	29	19½	26¾	14½	504	4437.00
8.5	207–253	+10–20%	39-78-285-6	D	43	29	19½	26¾	14½	666	5451.00
13	207–253	+10–20%	39-78-313-6	D	51½	36	27	33	16	805	7237.00
17	207–253	+10–20%	39-78-317	D	51½	36	27	33	16	1135	8051.00
26	207–253	+10–20%	39-78-326	D	51½	36	27	33	16	1495	8989.00

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.

TYPE 11Z TRIGATE® PULSE TRANSFORMERS



Flexible 6-Lead Type



Plug-In, Thermoplastic Sheath



Plug-In, Pre-molded Case

Trigate pulse transformers are specifically designed for commercial and industrial SCR triggering applications where low cost and excellent performance are required. Unique features offered by these devices include: Balanced pulse characteristics and energy transfer from the primary to secondary and tertiary windings; minimum saturation effect to allow operation where increased pulse widths are required; fast pulse rise time and increased current capability to prevent SCR di/dt failure; increased energy transfer efficiency. **Operating Temperature Range:** −10° C to +70° C; transformers for −40° C to +105° C operation are available on request. **Dielectric Test:** 1600 volts rms at 60 Hz. **AC Line Voltage:** 240 volts rms max. at 60 Hz. Choice of flexible lead and printed wiring board designs.

Flexible Lead 240-VAC Types—Leads are polyurethane-insulated magnet wire for direct soldering to terminals or other circuit components without removal of wire insulation. Mount with plastic clip or bracket such as Weckesser Etho-Loc snap clips. Case size, 0.593″ w. x 0.828″ lg. with flexible leads 1.500″ lg. min.

Sprague No.	Turns Ratio	Min. L_p, µH	Max. L_L, µH	Max. C_C, pF	Max. DCR, Ohms	No. of Leads	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z12	1:1	200	3	800	1.5–1.5	4	$3.09	$1.925	$1.26	$0.91	$0.84	$0.77
11Z13	1:1:1	200	3	800	2–2–2	6	3.72	2.338	1.53	1.105	1.02	.935
11Z14	2:1	1000	10	1300	10–2	4	4.17	2.613	1.71	1.235	1.14	1.045
11Z15	2:1:1	1000	15	1300	10–2–2	6	4.62	2.888	1.89	1.365	1.26	1.155
11Z16	5:1	5000	1500	400	19–3	4	5.49	3.438	2.25	1.625	1.50	1.375

Horizontal Plug-In Thermoplastic Sheath 240-VAC Types—Self-supporting, single-ended pulse transformers with leads especially designed for mounting on printed wiring boards. Case size, 0.968″ w. x 0.775″ d. x 0.800″ h. max. with No. 20 AWG pretinned copper wire leads 0.250″ lg. min.

11Z2000	1:1	200	3	800	1.5–1.5	4	$5.91	$3.713	$2.43	$1.755	$1.62	$1.485
11Z2001	1:1	1000	12	2000	8–8	4	6.15	3.85	2.52	1.82	1.68	1.54
11Z2003	2:1	1000	10	1300	10–2	4	7.23	4.538	2.97	2.145	1.98	1.815
11Z2004	5:1	5000	1500	400	19–3	4	6.57	4.125	2.70	1.95	1.80	1.65
11Z2100	1:1:1	200	3	800	2–2–2	6	6.81	4.263	2.79	2.015	1.86	1.705
11Z2101	1:1:1	1000	12	2000	10–10–10	6	7.02	4.40	2.88	2.08	1.92	1.76
11Z2103	2:1:1	1000	15	1300	10–2–2	6	7.89	4.95	3.24	2.34	2.16	1.98
11Z2104	5:1:1	5000	1500	400	20–4–4	6	7.23	4.538	2.97	2.145	1.98	1.815

Horizontal Plug-In, Pre-molded Case 240-VAC Types—Same as above. Case size, .950″ w. x .775″ d. x .750″ h.

Sprague Number	Turns Ratio	Min. L_p, µH	Max. L_L, µH	Max. C_C, pF	Max. DCR, Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
11Z3000	1:1	200	3	800	1.5–1.5	$8.10	$5.088	$3.33	$2.405	$2.22	$2.035
11Z3001	1:1	1000	12	2000	8–8	8.34	5.225	3.42	2.47	2.28	2.09
11Z3002	1:1	5000	15	3500	18–18	8.97	5.638	3.69	2.665	2.46	2.255
11Z3003	2:1	1000	10	1300	10–2	9.42	5.913	3.87	2.795	2.58	2.365
11Z3004	5:1	5000	1500	400	19–3	8.76	5.50	3.60	2.60	2.40	2.20
11Z3100	1:1:1	200	3	800	2–2–2	8.97	5.638	3.69	2.665	2.46	2.255
11Z3101	1:1:1	1000	12	2000	10–10–10	9.21	5.775	3.78	2.73	2.52	2.31
11Z3102	1:1:1	5000	15	3500	27–27–27	9.63	6.05	3.96	2.86	2.64	2.42
11Z3103	2:1:1	1000	15	1300	10–2–2	10.08	6.325	4.14	2.99	2.76	2.53
11Z3104	5:1:1	5000	1500	400	20–4–4	9.42	5.913	3.87	2.795	2.58	2.365

TYPE 66Z SCR TRIGGER TRANSFORMERS

Pre-molded construction permits slightly lower cost than fully-molded units without sacrifice in humidity resistance. Small size for use on PC boards and in encapsulated modular packages. Size, .400″ w. x .785″ l. x .312″ h.

Sprague Number	Turns Ratio	Min. L_p µH	Max. L_L µH	Max. C_C pF	Output Winding*	rms Volts†	Line VAC‡	Net Each, Lots of 1-24	25-49	50-99	100-249
66Z900	1:1:1	700	300	25	60	1000	240	$16.10	$12.65	$ 8.28	$5.98
66Z903	1:1:1	700	300	25	60	2200	550	16.625	13.063	8.55	6.175
66Z930	1:1:1	4800	25	50	110	1000	240	19.075	14.988	9.81	7.085
66Z932	1:1:1	4800	25	50	110	2200	550	23.625	18.563	12.15	8.775

*Typical V µsec. †60-cycle dielectric test. ‡Max. 60 Hz AC line voltage.

Variable Transformers



FIG. A



FIG. B



FIG. C



FIG. D

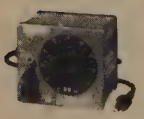


FIG. E



FIG. F

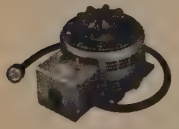


FIG. G



FIG. H

Staco variable transformers offer versatility and reliability unmatched by solid state voltage controls. Staco controls are used worldwide for industrial and laboratory applications to control voltage, current, power, heat, speed, light and electro-mechanical force. Staco variable transformers provide continuously adjustable output voltage from AC power sources without wave form distortions or SCR generated noise. Outstanding features include gold-plated commutators, precise regulation, high efficiency, conservative ratings and rugged construction.

You can select from panel mounted types, cord and plug types, ganged and/or motor driven types, metered types, and fully portable power supplies with or without meters, and ratings from 0.8 amps to 540 amps, 40 volts to 560 volts for single or three phase applications.

Staco has a nationwide network of distributors qualified to offer technical assistance whenever you need it. Additionally, the Staco Engineering Staff is available to help you with special or non-standard applications. Staco's Variable Voltage Controls handbook will be sent to you upon request ... it's loaded with illustrations, engineering data, specifications and ordering information on standard voltage controls. Prices shown are list prices.

PANEL OR BENCH MOUNTING MODELS *120 VOLT INPUT SINGLE PHASE*

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
171	A	*0-120/132	1.75	0.23	2 13/16 x 1 7/8	3.0	$ 18.50
201	A	*0-120/132	2.0	0.26	2 13/16 x 1 7/8	3.0	19.25
221	A	*0-120/132	2.25	0.30	2 13/16 x 2 1/8	3.2	19.50
251	A	*0-120/132	2.5	0.33	2 13/16 x 2 5/16	3.5	21.50
291	A	*0-120/132	3.0	0.40	2 13/16 x 2 5/16	3.5	23.00
501	B	0-120/140	5.0	0.70	3 3/4 x 3 3/4 x 3 5/16	6.0	31.00
1010	B	0-120/140	10.0	1.4	5 5/16 x 5 x 4 3/16	12.0	42.00
1010CT	J	0-120/140	10.0	1.4	6 7/8 x 5 x 4 7/16	12.0	61.00
SQ1010	B	0-120/140	10.0	1.4	5 3/16 x 4 1/4 x 4 5/32	12.0	42.00
1210	B	**0-120	12.0	1.44	5 5/16 x 5 x 4 3/16	12.0	45.00
1210CT	J	**0-120	12.0	1.44	6 7/8 x 5 x 4 7/16	12.0	60.00
SQ1210	B	**0-120	12.0	1.44	5 3/16 x 4 1/4 x 4 5/32	12.0	48.00
1510	C	0-120/140	15.0	2.1	6 1/8 x 6 5/8 x 4 3/8	20.0	80.00
1510CT	C	0-120/140	15.0	2.1	8 31/32 x 6 3/16 x 4 1/2	20.0	108.00
2510	C	0-120/140	25.0	3.5	8 3/16 x 7 5/8 x 4 1/8	23.0	116.00
2510CT	K	0-120/140	25.0	3.5	9 5/8 x 7 5/8 x 4 1/8	26.0	144.00
5010	D	0-140	50.0	7.0	15 3/8 x 13 7/8 x 5 1/4	60.0	275.00
5010CT	D	0-140	50.0	7.0	17 15/16 x 14 x 7 1/8	66.0	313.00
6010	D	0-120/140	60.0	8.4	15 3/8 x 13 7/8 x 5 1/4	67.0	340.00
6010C	D	0-120/140	60.0	8.4	15 3/8 x 13 7/8 x 7 1/8	67.0	353.00
6010CT	D	0-120/140	60.0	8.4	17 15/16 x 14 x 7 1/8	67.0	387.00

PANEL OR BENCH MOUNTING MODELS *240 VOLT INPUT SINGLE PHASE*

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
252	A	0-240/264	0.8	0.21	2 13/16 x 2 5/16	3.5	$ 34.00
1020	B	0-240/280	3.5	0.98	5 5/16 x 5 x 4 3/16	12.0	52.00
1020CT	J	0-240/280	3.5	0.98	6 7/8 x 5 x 4 7/16	12.0	66.00
SQ1020	B	0-240/280	3.5	0.98	5 3/16 x 4 1/4 x 4 5/32	12.0	52.00
1220	B	**0-240	5.0	1.2	5 5/16 x 5 x 4 3/16	12.0	55.00
1220CT	J	**0-240	5.0	1.2	6 7/8 x 5 x 4 7/16	12.0	69.00
SQ1220	B	**0-240	5.0	1.2	5 3/16 x 4 1/4 x 4 5/32	12.0	55.00
1520	C	0-240/280	9.5	2.66	6 1/8 x 6 5/8 x 4 13/16	20.0	80.00
1520CT	K	0-240/280	9.5	2.66	6 3/8 x 9 1/8 x 5	23.0	108.00
2520	C	0-240/280	10.0	2.8	8 3/16 x 7 5/8 x 4 1/8	23.0	116.00
2520CT	K	0-240/280	10.0	2.8	9 5/8 x 7 5/8 x 4 1/8	26.0	144.00
5020	D	0-240/280	28.0	7.8	15 3/8 x 13 7/8 x 5 1/4	60.0	270.00
5020CT	D	0-240/280	28.0	7.8	17 15/16 x 14 x 7 1/8	66.0	313.00
6020	D	0-240/280	35.0	9.8	15 3/8 x 13 7/8 x 5 1/4	63.0	329.00
6020C	D	0-240/280	35.0	9.8	15 3/8 x 13 7/8 x 7 1/8	63.0	353.00
6020CT	D	0-240/280	35.0	9.8	17 15/16 x 14 x 7 1/8	63.0	387.00

PORTABLE MODELS *120 VOLT INPUT SINGLE PHASE*

Cord, matching receptacle, switch, pilot light, fuse, connected for clockwise knob rotation. Available with 2 conductor line cord and receptacle (2PF) or a 3-conductor grounded line cord and receptacle (3PN).

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
2PF171	E	**0-132	1.75	0.23	3 15/16 x 3 15/16 x 3 1/2	3.5	$ 42.00
3PN171	E	**0-132	1.75	0.23	3 15/16 x 3 15/16 x 3 1/2	3.5	49.00
2PF501	E	0-120/140	5.0	0.70	5 3/8 x 6 1/16 x 5 3/8	9.0	59.00
3PN501	E	0-120/140	5.0	0.70	5 3/8 x 6 1/16 x 5 3/8	9.0	61.00
2PF1010	F	0-120/140	10.0	1.4	5 x 6 7/8 x 5 3/8	12.0	61.00
3PN1010	F	0-120/140	10.0	1.4	5 x 6 7/8 x 5 3/8	12.0	63.00
3PN1210†	F	**0-120	12.0	1.44	5 x 6 7/8 x 5 3/8	12.0	75.00
3PN1510†	G	0-120/140	15.0	2.1	5 7/8 x 6 3/8 x 9	21.0	119.00
3PN2210†	G	0-140	22.0	3.08	5 3/8 x 7 3/8 x 10 3/4	24.0	172.00

PORTABLE MODELS *240 VOLT INPUT SINGLE PHASE*

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
2PF1020	F	0-240/280	3.5	0.98	5 x 6 7/8 x 5 3/8	12.0	$ 71.00
3PN1020	F	0-240/280	3.5	0.98	5 x 6 7/8 x 5 3/8	12.0	77.00
3PN1220†	F	**0-240	5.0	1.2	5 x 6 7/8 x 5 3/8	12.0	84.00
3PN1520†	G	0-240/280	9.5	2.66	5 7/8 x 6 3/8 x 9	21.0	123.00
3PN2520†	G	0-280	10.0	2.8	5 3/8 x 7 3/8 x 10 3/4	24.0	172.00

CT refers to enclosed coil and terminals *60 HZ Only on Overvoltage Connection
**60 HZ operation only C refers to enclosed coil only

†2PF Model available at same price

Variable Transformers



FIG. J



FIG. K



FIG. L



FIG. M

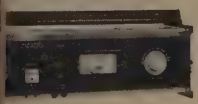


FIG. N



FIG. O



FIG. P



FIG. Q

METERED PORTABLE MODELS *120V & 240V SINGLE PHASE*

As above with an accurate, high quality pivot and jewel meter conveniently located atop the enclosure for easy, accurate readout. 120V models have 0-150V meter, 240V models have 0-300V meter.

MFG. TYPE No.	FIG.	INPUT VOLTS	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
2PF1010V	H	120	0-140	10.0	1.4	5 x 6⅞ x 5⅝	12.0	$ 99.00
3PN1010V	H	120	0-140	10.0	1.4	5 x 6⅞ x 5⅝	12.0	102.00
3PF1510V	—	120	0-140	15.0	2.1	5⅞ x 6¾ x 9	21.0	158.00
2PF1020V	H	240	0-280	3.5	9.8	5 x 6⅞ x 5⅝	12.0	110.00
3PN1020V	H	240	0-280	3.5	9.8	5 x 6⅞ x 5⅝	12.0	116.00
3PN1520V	—	240	0-280	9.5	2.66	5⅞ x 6¾ x 9	21.0	162.00

Ammeter equipped models available on special order.

VARIABLE ISOLATION TRANSFORMERS *120 VOLT INPUT SINGLE PHASE*

An exclusive by STACO, for use where the safety of isolation is required. The output voltage is completely isolated from the power line (input voltage). On uncased models, when proper external connections are made between windings, it is possible to increase the voltage or current output or input through non-isolated, voltage doubler, or series connection.

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
J201	B	0-140	2.0	0.28	5 5/16 x 5 x 4¾	13.0	$ 83.00
J401	B	0-140	4.0	0.56	6⅛ x 6⅝ x 4 7/16	20.0	128.00
J901	C	0-140	9.0	1.26	8 3/16 x 7⅝ x 4¾	32.0	223.00

ISOLATED PORTABLE MODELS *120 VOLT INPUT SINGLE PHASE*

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	METER	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
3PNJ201	F	0-140	2.0	0.28	NO	5 x 6⅞ x 5⅝	11.0	$103.00
3PNJ201V	H	0-140	2.0	0.28	0-150	5 x 6⅞ x 5⅝	11.0	139.00
3PNJ401	G	0-140	4.0	0.56	NO	5⅞ x 6¾ x 9	20.0	165.00
3PNJ401V	—	0-140	4.0	0.56	0-150	5⅞ x 6¾ x 9	20.0	202.00

Ammeter equipped 3PNJ201A and 3PNJ401A available on special order.

AC POWER SUPPLIES *120 VOLT SINGLE PHASE*

Portable AC Power Supplies are ideal for labs or test bench use. Housed in a ventilated steel and aluminum enclosure with carrying handle, each model is complete with a three-conductor line cord, plug & matching receptacle, pilot light, switch and circuit breaker. Metered models are available with Voltmeter, Ammeter or a Wattmeter (or a combination of meters).

MFG. TYPE NO.	FIG.	INPUT VOLTS	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
L221	L	**120	0-132	1.75	0.23	6 9/32 x 5 x 4¼	5.0	$ 53.00
L501	L	120	0-140	4.5	0.63	7 23/32 x 5⅜ x 5⅞	12.0	68.00
L1010	L	120	0-140	10.0	1.4	9 13/32 x 6½ x 6¼	20.0	82.00
E501V	N	120	0-120/140	5.0	0.7	6⅛ x 17⅝ x 5⅞	20.0	154.00
E501VA	M	120	0-120/140	5.0	0.7	10 x 15 1/16 x 5⅞	25.0	255.00
E501VAW	M	120	0-120/140	5.0	0.7	10 x 15 1/16 x 5⅞	28.0	402.00
E1010V	N	120	0-120/140	10.0	1.4	6 3/16 x 17⅝ x 5⅞	27.0	190.00
E1010VA	M	120	0-120/140	10.0	1.4	10 x 15 1/16 x 5⅞	33.0	304.00
E1010VAW	M	120	0-120/140	10.0	1.4	10 x 15 1/16 x 5⅞	35.0	446.00

E Series Models E171, E501 and E1010, without meters are also available.

ISOLATED AC/DC POWER SUPPLIES *120 VOLT SINGLE PHASE*

As above plus a 0-150V direct rating output voltmeter. 0-140V AC and 0-120V DC isolated outputs at full rated current available from banana jacks located on front panel.

MFG. TYPE NO.	FIG.	OUTPUT VOLTS	OUTPUT AMPS	KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
EJ201V	N	0-140	2.0	0.28	6 3/16 x 17⅝ x 5⅞	20.0	$178.00
EJ401V	N	0-140	4.0	0.56	10 x 15 1/32 x 5⅞	30.0	231.00
EJ901V	N	0-140	9.0	1.26	10 x 16 3/32 x 7½	43.0	326.00

THREE PHASE MODELS *240 VOLTS OR 480 VOLTS INPUT*

Three phase types are three individual units driven by a common shaft and electrically connected in three-phase wye configuration.

MFG. TYPE NO.	FIG.	INPUT		OUTPUT		KVA	SIZE (INCHES) H x W x D	SH. WT. LBS.	PRICE EACH
		VOLTS	FREQ. HZ	VOLTS	AMPS				
221-3	O	240	60	0-240	2.25	0.94	3⅞ x 3⅞ x 8⅛	9	$ 106.00
1010-3	P	240	50/60*	0-240/280	10.0	4.85	6⅛ x 5 x 14 13/32	36	184.00
1510-3	P	240	50/60*	0-240/280	15.0	7.26	7½ x 6⅛ x 14 3/4	56	296.00
2510-3	P	240	50/60*	0-240/280	25.0	12.10	8⅝ x 7⅝ x 14⅝	72	423.00
5010-3Y	Q	240	60	0-280	50.0	24.2	15 5/16 x 13⅞ x 19⅝	225	982.00
6010-3Y	Q	240	60	0-240/280	60.0	29.1	15 5/16 x 13⅞ x 19⅝	242	1198.00
252-3	O	480	56/60*	0-480/528	0.8	0.73	3⅞ x 3⅞ x 8⅛	9	160.00
1010-3	P	480	50/60*	0-480/560	3.5	3.40	6⅛ x 5 x 14 13/32	36	194.00
1520-3	P	480	50/60*	0-480/560	9.5	9.20	7 1/4 x 6⅛ x 15 1/16	56	296.00
2520-3	P	480	56/60*	0-480/560	10.0	9.70	8⅝ x 7⅝ x 14⅝	72	439.00
5020-3Y	Q	480	50/60*	0-480/560	28.0	27.2	15 5/16 x 13⅞ x 19⅝	225	987.00
6020-3Y	Q	480	50/60	0-480/560	35.0	33.9	15 5/16 x 13⅞ x 19⅝	240	1198.00

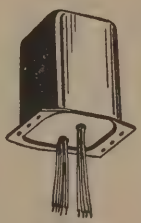
V = Voltmeter VA = Voltmeter-Ammeter VAW = Voltmeter, Ammeter, Wattmeter **60 HZ operation only

ESSEX STANCOR Transformers


A


S


C


SC


VE


TD

PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

SINGLE PLATE TO VOICE COIL AND/OR LINE

Stancor No.	Impedance in Ohms Primary	Secondary	Audio Watts	Mtg. Type	Net Each, Lots of 1-9	10-24	25-49	50-99
A-3332	2000	3.2	3	A	$ 5.62	$ 5.31	$ 4.72	$ 4.47
A-3876	2000	4.0	5	A	4.76	4.50	4.00	3.79
A-3328	4000	3.5	3	A	6.14	5.81	5.17	4.89
A-3877	5000	4.0	5	A	6.44	5.84	5.19	4.92
A-3309	5000	3-4	3	A	6.34	6.00	5.33	5.06
A-8092	5000	3-4	8	A	5.25	4.97	4.42	4.18
A-3878	7000	4.0	5	A	4.86	4.59	4.08	3.87
A-3329	8000	3.5	3	A	5.48	5.19	4.61	4.37
A-3879	10000	4.0	5	A	5.62	5.31	4.72	4.47
A-3250	20000/10000/5000	500/333/200/125/50	5	A	15.03	14.22	12.64	11.97
A-3327	25000	4.0	5	A	6.97	6.59	5.86	5.55

PUSH-PULL PLATES TO VOICE COIL AND/OR LINE

Stancor No.	Impedance in Ohms Primary, CT	Secondary	Audio Watts	Mtg. Type	Net Each, Lots of 1-9	10-24	25-49	50-99
A-3800	5000	500/250/15/8/4	30	C	$25.27	$23.91	$21.25	$20.13
A-3801	6600	500/250/15/8/4	35	C	28.36	26.83	23.85	22.59
A-3311	10000	500/15/8/4	25	C	19.52	18.63	16.56	15.69
A-3831	10000	8/4/2	5	A	7.99	7.56	6.72	6.37
A-8093	10000	3-4	10	A	6.05	5.72	5.08	4.82
A-3335	10000	6-8/3.2-4	10	S	8.19	7.75	6.89	6.53
A-3250	20000	500/333/200/125/50	5	A	15.03	14.22	12.64	11.97

25 VOLT LINE TO VOICE COIL AUDIO TRANSFORMERS

Stancor No.	Mtg. Type	Impedance, Ohms Primary	Secondary	Power Watts	Termi-nations	Net Each, Lots of 1-9	10-24	25-49	50-99
A-8096	S	78/156/312/625/1250	4/8/16	8/4/2/1/.5	Lugs	$ 7.70	$ 7.28	$ 6.47	$ 6.13
A-8097	S	39/78/156/312/625/1250	4/8/16	16/8/4/2/1/.5	Lugs	15.36	14.53	12.92	12.24
A-8095	A	125/250/500/1000/2000	4/8	5/2.5/1.25/.62/.31	Lugs	10.21	9.66	8.58	8.13
A-8099	A	312/625/1250	4/8	2/1/.5	Lugs	9.08	8.59	7.64	7.24
A-8087	A	312/625/1250	8	2/1/.5	Leads	7.93	7.50	6.67	6.32
A-8055	A	625/1250	8	1/.5 ct	Leads	5.29	5.00	4.44	4.21
A-8071	A	625/1250	8	1/.5	Leads	3.47	3.28	2.92	2.76

70.7 VOLT LINE TO VOICE COIL AUDIO TRANSFORMERS

A-8102	S	625/1250/2500/5000/10000	4/8/16	8/4/2/1/.5	Lugs	$11.36	$10.75	$9.57	$ 9.06
A-8103	S	312/625/1250/2500/5000/10000	4/8/16	16/8/4/2/1/.5	Lugs	16.19	15.31	13.61	12.90
A-8105	A	1000/2000/4000/8000/16000	4/8	5/2.5/1.25/.62/.31	Lugs	10.44	9.88	8.78	8.32
A-8105A	A	1000/2000/4000/8000/16000	4/8	5/2.5/1.25/.62/.31	Leads	11.56	10.94	9.72	9.21
A-8100	A	2500/5000/10000	4/8	2/1/.5	Lugs	7.55	7.14	6.35	6.01
A-8080	A	1000/1250/1667/2500/5000	8/16	5/4/3/2/1	Lugs	10.95	10.36	9.21	8.72
A-8082	S	333/357/384/417/455	8/16	15/14/13/12/11	Lugs	14.04	13.28	11.81	11.18
A-8081	S	500/555/625/715/833	8/16	10/9/8/7/6	Lugs	13.21	12.50	11.11	10.53
A-8083	A	2500/5000/10000	8	2/1/.5	Leads	8.78	8.31	7.39	7.00
A-8084	A	1250/2500/5000/10000/20000/40000	8	4/2/1/.5/.25/.12	Leads	12.45	11.78	10.47	9.92
A-8076	S	250/500/1000/2000	4/8/16	20/10/5/2.5	Lugs	13.97	13.22	11.75	11.13
A-8077	S	208/416/833/1666/3333	4/8/16	24/12/6/3/1.5	Lugs	16.71	15.81	14.06	13.32
A-8078	S	167/250/500/1000	4/8/16	30/20/10/5	Lugs	11.36	10.75	9.56	9.05
A-8079	S	100/125/200/333	4/8/16	50/40/25/15	Lugs	10.90	10.31	9.17	8.69

LINE TO VOICE COIL AUDIO TRANSFORMERS

Stancor No.	Mtg. Type	Impedance, Ohms Primary	Secondary	Powers Watts	Term-inations	Net Each, Lots of 1-9	10-24	25-49	50-99
A-8104	S	3000/2000/1500/1000/500	4/8/16	10	Lugs	$13.11	$12.41	$11.03	$10.45
A-3883	S	500	4/6/8/15	25	Lugs	10.89	10.11	8.97	8.51
A-8101	A	500	3.2/6-8	5	Lugs	5.68	5.38	4.78	4.53
A-7947	A	2000/1500/1000/500	3.2/6-8	8	Lugs	8.75	8.28	7.36	6.97
A-7949	S	2000/1500/1000/500	3.2/6-8	12	Lugs	17.18	16.25	14.44	13.68
A-3837	S	500	.06-48	15	Lugs	12.52	11.84	10.53	9.97

AUDIO TRANSFORMERS FOR INTERCOMS AND TRANSCEIVERS

Stancor No.	Mtg. Type	Application	Impedance, Ohms Primary	Secondary	Term-inations	Net Each, Lots of 1-9	10-24	25-49	50-99
A-4744	VE	Intercom input	4	25K	Leads	$6.24	$5.91	$5.25	$4.97
A-8090	A	Line to voice coil	45/50	6-8/3-4	Lugs	5.75	5.44	4.83	4.58
A-4749	TD	Telephone patch	10K	500	Leads	21.70	20.53	18.25	17.29

INTERSTAGE AUDIO TRANSFORMERS

Stancor No.	Mtg. Type	Turns Ratio	Pri. mA DC	Resistance, Ohms Pri.	Sec.	Term-ination	Net Each, Lots of 1-9	10-24	25-49	50-99
A-53	A	1:3	10	400 1500	1500	Leads	$7.99	$7.56	$6.72	$6.37
A-52C	A	1:2	10	570	1450	Leads	8.67	8.20	7.29	6.91
A-53C	A	1:3	10	400	1500	Leads	8.62	8.16	7.25	6.87
A-53C	A	1:3	10	585	2050	Leads	5.58	5.28	4.69	4.45
A-4723	A	3:1*	30	435	435	Leads	8.89	8.41	7.47	7.08

*Primary to 1/2 secondary winding.

AUDIO TRANSFORMERS FOR MICROPHONE, PICKUP OR LINE

Stancor No.	Mtg. Type	Application	Impedance, Ohms Primary	Secondary	Term-inations	Net Each, Lots of 1-9	10-24	25-49	50-99
A-4351	SC	Mic. to grid	500/333/200/125/50	89K	Leads	$11.59	$10.97	$ 9.75	$ 9.24
A-4779	A	Line to grids	600/500/CT	60K CT	Leads	8.49	8.03	7.14	6.76
A-4350	A	Line to line	50/125/200/333/500	50/125/200/333/500	Lugs	14.80	14.00	12.44	11.79

STANCOR Transformers

UNIVERSAL OUTPUT TRANSFORMERS

ermination: Primary, leads except A-3849, A-3880, A-3870; secondary, lugs.

Stancor No.	Impedance Ohms Primary	Sec.	Watts	Mtg. Type	Net Each, Lots of 1-9	10-24	25-49	50-99
A-3858*†	4000-14000	.05-122	4	A	$10.45	$9.50	$8.44	$8.00
A-3823*†	4000-14000	.05-122	8	A	10.67	10.09	8.97	8.50
A-3849*	1500-10000	.02-21	10	A	11.63	11.00	9.78	9.26
A-3880†	4000-14000	.02-122	15	A	14.04	13.28	11.81	11.18
A-3852†	4000-14000	.05-122	18	S	13.51	12.78	11.36	10.76
A-3830†	3000-10000	.04-122	20	S	13.91	13.16	11.69	11.06

ingle plate. †Push-pull plate.

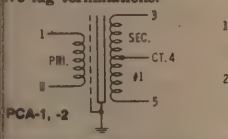
CATHODE-RAY TUBE POWER TRANSFORMER

or use in half-wave circuits. Primary 117 V, 50/60 Hz, except P-8151, 60 Hz. May be operated from a 400 Hz source th no change in output. Lead termination except P-8179, lug.

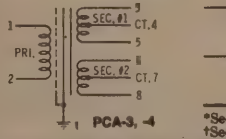
tancor No.	Plate Windings VAC	mADC	Rec. V	Fil. A	Other Winding V	A	Mtg.	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
-8150	1550	1.5	2.5	1.75	.....	..	SC	3 × 2½ × $3\frac{1}{16}$	$16.81	$15.91	$14.13	$13.40
-8179	1600	3.0	.....	.....	6.3/5/2.5 6.3/5/2.5	1.0 3.0	M	2½ × 3 × 3½	23.78	22.50	20.00	18.95
-8151	2400	5.0	2.5	2.0	2.5	2.0	C	$3\frac{7}{16}$ × 3⅜ × 4¼	37.29	35.28	31.36	29.71

PERIPHERAL COMPUTER ACCESSORY TRANSFORMERS

esigned for supplies delivering regulated positive and gative DC voltages for OP-AMPS and separate 5 to 6 lt regulated DC voltages for logic circuits. All ansformer ratings are for continuous duty with a 105° maximum operating temperature limit. Primary, 120 50-60 Hz. Tested to 1500 V rms. All transformers ve lug terminations.



PCA-1, -2



PCA-3, -4

Stancor No.	Output VDC	mA	Input Filter MFD
PCA-1	+21 −21	150* 150*	500 500
PCA-2	+21 −21	250* 250*	500 500
PCA-3	+21 −21 +8.5	150* 150* 2000†	500 500 1000
PCA-4	+21 −21 +8.0	250* 250* 4000†	500 500 3000

*Secondary No. 1 with full-wave bridge rectifier.
†Secondary No. 2 with full-wave center-tapped rectifier.

tancor No.	Style	Secon. #1 Volts	Ampe	Second. #2 Volts	Ampe	Wght. Lbs.	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
PCA-1	S	35 CT	.21	.....	.....	1.0	2⅞ × 1⅝ × 2⅜	$8.72	$8.25	$7.33	$6.95
PCA-2	S	35 CT	.35	.....	.....	1.4	3⅛ × 1⅞ × $2\frac{11}{16}$	9.81	9.28	8.25	7.82
PCA-3	NV	33 CT	.21	18 CT	1.25	3.0	2½ × 2¾ × 3½	19.08	18.05	16.04	15.20
PCA-4	NV	34 CT	.35	19 CT	2.5	3.9	$2\frac{13}{16}$ × 2¾ × $3\frac{7}{16}$	23.09	21.84	19.42	18.40

PRINTED CIRCUIT POLYCHROMATRANS

rinted circuit board transistor transformers. Test volts, 500 rms. Color-coded by application. Up to 50% reduction distortion over other brands. Improved lower-end frequency response. Leads are fatigue resistant gold-plated ckel-iron alloy, .020" dia., $\frac{9}{16}$" long and have multiples of 0.1" grid spacing for PC application. Size .410" w. × .310" × .480" h.

tancor No.	Power Level mW	Use	Matching Impedance, Ohms Primary	Secondary	Max. mA DC*	Net Each, Lots of 1-9	10-24	25-49	50-99
PCT-14	15	Input	200K CT	1K CT	0	$14.48	$13.70	$12.18	$11.54
PCT-17	15	Input	200K	1K	0	15.03	14.14	12.84	11.97
PCT-23	55	Interstage	25K CT	1K CT	.5	15.61	14.77	13.13	12.43
PCT-76	75	Output Isolation	10K CT	10K CT	1	15.61	14.77	13.13	12.43
PCT-77	75	Output Isolation	600 CT	600 CT	3	14.53	13.75	12.22	11.58
PCT-116		Choke	6 Henrys		2	10.90	10.31	9.17	8.68
PCT-117		Choke	1.25 Henrys		2	10.52	9.95	8.85	8.36

nbalanced, in primary.

o. SPCT-10—Magnetic alloy shield for all PCT transformers. Net Each, Quantities of 1-9.....3.42
et Each, Quantities of 10-24..... $2.72; 25-49..... $2.56; 50-99..... 2.42

AUTOMATION CONTROL/RECTIFIER TRANSFORMERS

ay be operated from a 400 Hz source with no change in output ratings. By connecting primaries in series (for 230 but using only 115 input, a series of half voltage output ratings becomes available at the full rated current from ch secondary. Solder lug termination.

tancor No.	Secondary Parallel		Series		VA Rating	Mtg. Type	Wt., Lbs.	Net Each, Lots of 1-9	10-24	25-49	50-99
-6375	6 V at	2 amps	12 V at	1 amp	12	S	1	$9.05	$8.56	$7.61	$7.21
-6376	6 V at	4 amps	12 V at	2 amps	24	S	1.5	12.52	11.84	10.53	9.97
-6377	12 V at	4 amps	24 V at	2 amps	48	S	2.5	12.62	11.94	10.61	10.05
-6378	12 V at	8 amps	24 V at	4 amps	96	NV	4.2	23.49	22.22	19.75	18.71
-6379	12 V at	16 amps	24 V at	8 amps	192	NV	8	41.45	39.22	34.86	33.03
-6615	24 V at	0.5 amp	48 V at	0.25 amp	12	S	1.0	12.29	11.63	10.33	9.79
-6616	24 V at	1 amp	48 V at	0.5 amp	24	S	1.5	12.88	12.19	10.83	10.26
-6617	24 V at	2 amps	48 V at	1 amp	48	S	2.5	11.92	11.28	10.03	9.50
-6618	24 V at	4 amps	48 V at	2 amps	96	NV	4.2	22.35	21.14	18.79	17.80
-6619	24 V at	8 amps	48 V at	4 amps	192	NV	8.0	34.91	30.03	29.36	27.82


A


S


SC


M

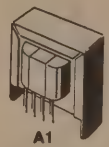

PCT

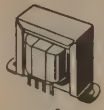

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C

PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

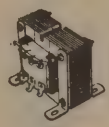
ESSEX STANCOR Transistor Transformers

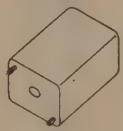

A1

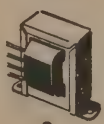

A


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TS


S


NV

PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

MINIATURE TRANSISTOR AUDIO TRANSFORMERS

.150 Watt Group—Dimensions: $^{13}/_{16}$" w. × ⅜" d. × $^{21}/_{32}$" h. Mtg. tabs $^{25}/_{32}$" centers, $^{3}/_{16}$" w. Weight, 0.65 oz. Mtg. Type A1.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Lots of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TA-18	Input	30 CT	50,000	14.7	4060	$10.01	$9.47	$8.42	$7.97
TA-19	Interstage	100 CT	10 CT	19	1.27	8.29	7.84	6.97	6.61
TA-21	Output	500 CT	4, 8, 16	75.3	3.55	9.98	9.44	8.39	7.95
TA-22	Interstage	500 CT	50	59.7	7.9	7.12	6.73	5.99	5.67
TA-23	Output	600 CT	4, 8, 16	73.2	3.2	9.02	8.53	7.59	7.18
TA-24	Interstage	500 CT	50,000	76.8	5135	8.59	8.13	7.22	6.84
TA-27	Interstage	1,200	20,000 CT	142	1860	8.19	7.75	6.89	6.53
TA-28	Interstage	1,500	500 CT	104	46.5	7.93	7.50	6.67	6.32
TA-29	Output	2,500	4, 16	370	2.3	7.04	6.66	5.92	5.61
TA-30	Interstage	5,000 CT	7,500 CT	650	790	8.59	8.13	7.22	6.84
TA-31	Interstage	5,000 CT	10,000 CT	635	825	8.13	7.69	6.83	6.47
TA-32	Interstage	5,000 CT	80,000 CT	500	5200	8.72	8.25	7.33	6.95
TA-33	Output	10,000 CT	4, 8, 16	1174	2.6	8.95	8.47	7.53	7.13
TA-34	Interstage	10,000	200 CT	1200	25.0	7.86	7.44	6.61	6.26
TA-35	Interstage	10,000	2,000 CT	1200	257	7.89	7.47	6.64	6.29
TA-36	Interstage	10,000	3,000	1200	385	7.99	7.56	6.72	6.37
TA-38	Interstage	500 CT	150 CT	62	21.2	7.12	6.73	5.99	5.67
.300 Watt Group—Dimensions: 1⅝" w. × ¾" d. × $^{13}/_{16}$" h. Mtg. centers, 1⅜". Weight, 1.2 oz. Mtg. Type A.									
TA-39	Output	100 CT	4, 8, 16	10.9	1.45	$10.36	$9.80	$8.71	$8.25
TA-41	Output	400 CT	4, 8, 16	34	1.5	9.91	9.38	8.33	7.90
TA-42	Output	500 CT	4, 8, 16	47	.85	10.80	10.22	9.08	8.61
TA-43	Output	700 CT	4, 8, 16	77	1.15	9.68	9.16	8.14	7.71
TA-45	Output	3,000	4, 8, 16	192	1.2	9.96	9.44	8.39	7.95
TA-46	Interstage	100,000	1,500 CT	3250	143	9.12	8.63	7.67	7.28
TA-47	Input	1,000 CT	200,000 CT	123	1815	9.45	8.94	7.94	7.53
TA-52	Interstage	500 CT	500 CT	40	55	7.47	7.06	6.28	5.95
TA-55	Input	500,000	200 CT	12000	18	9.94	9.41	8.36	7.92
TA-63	Driver	20,000 CT	2,000 CT	2140	325	9.22	8.72	7.75	7.34

MINIATURE TRANSISTOR AUDIO TRANSFORMERS FOR PRINTED CIRCUITS

.150 Watt Group—Dimensions: $^{13}/_{16}$" w. × .65" d. × ¾" h. Mtg. Type B.

Stancor No.	Application	Impedance, Ohms		DC Resis., Ohms		Net Each, Lots of			
		Primary	Secondary	Primary	Secondary	1-9	10-24	25-49	50-99
TAPC-28	Interstage	1,500	500 CT	104	46.5	$6.94	$6.56	$5.83	$5.53
TAPC-35	Interstage	10,000	2,000 CT	1200	257	6.85	6.48	5.76	5.46
TAPC-38	Interstage	500 CT	150 CT	62	21.2	7.53	7.13	6.33	6.00
.300 Watt Group—Dimensions: $1^{1}/_{32}$" w. × 1" d. × ¾" h. Mtg. Type B.									
TAPC-52	Interstage	500 CT	500 CT	40	55	$9.61	$9.09	$8.08	$7.66
TAPC-63	Driver	20,000 CT	2,000 CT	2140	325	9.17	8.67	7.71	7.30

TRANSISTOR AUDIO TRANSFORMERS

Special transformers for transistor applications. Mtg. Types: TA-56, TA-57 and TA-61, S; TA-13, SC; TA-60, TS; all others, Mtg. Type A.

Stancor No.	Impedance, Ohms		DC Res., Ohms		Max Prl. mADC	Watts	Net Each, Lots of			
	Prl.	Sec.	Prl.	Sec.			1-9	10-24	25-49	50-99
TA-1*	600 CT	10	42	.8	20	.05	$9.02	$8.53	7.58	$7.18
TA-2†	100 CT	10 CT	4.3	.8	100	.25	7.10	6.72	5.97	5.66
TA-3†	100	1000 CT	5.8	45	100	.25	8.09	7.66	6.81	6.45
TA-4†	500 CT	5000 CT	37	250	12	.03	9.05	8.56	7.61	7.21
TA-5‡	1000	200 CT	400	115	10	.05	10.11	9.56	8.50	8.05
TA-6‡	2000	200 CT	720	115	5	.05	8.62	8.16	7.25	6.87
TA-7‡	100	100 CT	12	12	100	.5	6.34	6.00	5.33	5.05
TA-9§	1000	4/8/16	180	3.5	10	.2	9.41	8.91	7.92	7.50
TA-10§	2000 CT	4/8/16	250	4	.....	.2	11.96	11.03	9.81	9.29
TA-11§	48 CT	8/16	5	1.5	275	5	9.85	9.13	8.11	7.68
TA-12§	20 CT	8	.55	.35	500	10	7.56	7.16	6.36	6.03
TA-16‡	20	36 CT	.....	.....	400	1.0	6.87	6.50	5.78	5.47
TA-56§	48 CT	3.2/8/16	3.6	1.4	550	10	9.84	9.31	8.28	7.84
TA-57§	100 CT	3.2/8/16	6.6	1.5	500	10	8.75	8.28	7.36	6.97
TA-58§	100	200 CT	6.5	15.5	200	.5	7.00	6.63	5.89	5.58
TA-59§	500 CT	200 CT	36.5	15.5	50	.5	6.85	6.48	5.76	5.46

*Input. †Interstage. ‡Driver. §Output. #Has lugs on secondary.

TRANSISTOR POWER SUPPLY TRANSFORMERS

For transistor power supplies. Primary 117 VAC, 60 Hz. May be operated from a 400 Hz source with no change in output ratings. Lead wire termination. For rectifier circuits, for P-8193, P-8194, showing DC voltages and allowable DC current, write for Stancor Bulletin No. 587.

Stancor No.	Secondary No. 1		Secondary No. 2		Size, Inches W. × D. × H	Mtg. Type	Net Each, Lots of			
	V	A‡	V	A‡			1-9	10-24	25-49	50-99
P-8604#	20 CT	1.0	.....	.....	3⅛ × 2⅛ × 2	A	$9.76	$9.25	$8.22	$7.80
P-8614#	30	3.0	.....	.....	$2^{13}/_{16}$ × 3⅛ × 3½	C	22.46	21.25	18.89	17.90
P-8621†	24/26/28/30	15.0*	.....	.....	4½ × 5½ × $3^{13}/_{16}$	NH	62.76	59.39	52.79	50.01
P-8623§	18/20/22	2.0*	.....	.....	3⅝ × 2¼ × 3½	S	13.94	13.18	11.72	11.11
P-8197	50 CT	1.0	.....	.....	2½ × $2^{11}/_{16}$ × 3½	C	14.34	13.56	12.06	11.42
P-8198	54 CT	.5	6.3	.5	$2^{3}/_{16}$ × $2^{9}/_{16}$ × 2⅝	C	15.10	14.28	12.69	12.03
P-8193	17/18	6.0	.....	.....	3⅛ × 3⅛ × $3^{13}/_{16}$	NV	22.30	21.09	18.75	17.76
P-8194	36	3.0	36	3.0	3⅝ × 3¾ × $4^{9}/_{16}$	NV	36.24	34.28	30.47	28.87
P-8196	80 CT	1.5	.....	.....	$2^{13}/_{16}$ × 3⅝ × 3½	C	22.99	21.75	19.33	18.32

†Secondary leads have lugs attached. ‡rms. §Solder lug termination. #May be operated from 117 V, 50/60 Hz at full rated load.

STANCOR Power Transformers

POWER TRANSFORMERS FOR CAPACITOR INPUT SYSTEMS

rimary 117 V, 60 Hz; may be operated from a 400 Hz source with no change in output. Meets EIA requirements for ectrical tolerances, dielectric strength, temperature rise and construction. Operating temperature 105° C max. ll secondary AC voltages ±3%.

Stancor No.	Plate Windings AC V	Plate Windings mA DC	Rectifier Filament V	Rectifier Filament A	Other Windings V	Other Windings A	Base Area, Inches	Mtg. Type	Wt. Lbs.	Net Each, Lots of 1-9	10-24	25-49	50-99
-8415	125#	15	.....	.....	6.3	.6	2¾ × $1\frac{11}{16}$	S	.7	$9.22	$8.72	$7.75	$7.34
8624	125#	15	.....	.....	12.6	.3	2¾ × $1\frac{11}{16}$	S	.7	7.40	7.00	6.22	5.90
-8416	125-0-125	25	.....	.....	6.3	1.0	$2\frac{13}{16}$ × 1¾	S	1.0	8.62	8.16	7.25	6.87
8625	125-0-125	25	.....	.....	12.6	.6	$2\frac{13}{16}$ × 1¾	S	1.0	12.59	11.91	10.58	10.03
-8421	125#	50	.....	.....	6.3	2.0	$3\frac{11}{16}$ × 2⅛	A	1.5	11.59	10.97	9.75	9.24
8626	125#	50	.....	.....	12.6	1.0	$3\frac{11}{16}$ × 2⅛	A	1.5	10.77	10.19	9.07	8.58
9181	150#	25	.....	.....	6.3 CT	.5	2¾ × $1\frac{13}{16}$	VE	.8	10.14	9.59	8.53	8.08
8627	150#	25	.....	.....	12.6 CT	.3	2¾ × $1\frac{13}{16}$	VE	.8	9.55	9.03	8.03	7.61
9359	190-160-0 160-190	70	.....	.....	6.3 CT/ 6.3	3.0/.6	2¾ × 2½	C	2.8	18.40	17.41	15.47	14.66
9383	200-0-200	110	.....	.....	6.3/6.3 CT	2.0/4.0	3¼ × 2½	C	3.0	18.99	17.97	15.97	15.13
-8417	220-0-220	50	.....	.....	6.3/25.2	.6/.5	2¾ × 2½	C	2.2	15.29	14.47	12.86	12.18
-8418	230-0-230	50	.....	.....	6.3	2.5	2¾ × 2½	C	2.2	17.08	16.16	14.36	13.61
H-8418	230-0-230	50	.....	.....	6.3	2.5	3 × 2½	M	2.2	14.70	13.91	12.36	11.71
-8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	2¾ × 2½	C	2.2	16.70	17.69	15.72	14.90
H-8401	235-0-235	40	5.0	2.0	6.3 CT	2.0	3 × 2½	M		17.41	16.47	14.64	13.87
-8402	240-0-240	55	5.0	2.0	6.3 CT	2.0	2¾ × 2½	C	2.4	19.82	18.75	16.67	15.79
-8419	240-0-240	70	.....	.....	6.3	3.0	2⅞ × 2½	C	2.6	21.47	20.31	18.06	17.11
H-8419	240-0-240	70	.....	.....	6.3	3.0	3 × 2½	M		15.89	15.03	13.36	12.66
9174	250-0-250	20	.....	.....	6.3/6.3	.6/1.2	2¼ × $3\frac{5}{16}$	C		14.60	13.81	12.28	11.63
-8403	250-0-250	70	5.0	2.0	6.3 CT	2.5	3½ × 2½	C	3.2	19.49	18.44	16.39	15.53
-8404	260-0-260	90	5.0	2.0	6.3 CT	3.0	3½ × $2\frac{13}{16}$	C	4.0	21.67	20.50	18.22	17.26
-8420	260-0-260	90	.....	.....	6.3	4.0	3¼ × $2\frac{13}{16}$	C	3.5	17.74	16.78	14.92	14.13
H-8420	260-0-260	90	.....	.....	6.3	4.0	3⅜ × $2\frac{13}{16}$	M		17.44	16.50	14.67	13.90
C-55	270-0-270	55	5.0	2.0	6.3 CT	2.0	2⅞ × 3½	SC		30.39	28.75	25.56	24.21
-8405	270-0-270	120	5.0	3.0	6.3 CT	3.5	3½ × 3½	C	4.9	24.24	22.94	20.39	19.32
9356	270-0-270	260	5.0	3.0	6.3	8.8	3⅜ × 3½	C*	6.5	29.17	27.59	24.53	23.24
9377	270-0-270	280	5.0	3.0	6.3	10.0	$3\frac{15}{16}$ × 3¼	M*	6.7	31.05	29.38	26.11	24.74
9378	280-0-280 250-0-250	300	5.0/3.0	4.5	6.3/24.0	10.0/1.2	4⅛ × 3½	C*	7.9	39.08	36.97	32.86	31.13
9355	285-0-285	250	5.0	3.0	6.3	9.5	3½ × 3¾	C4*	6.5	36.80	34.83	30.78	29.16
9358	300-0-300	65	.....	.....	6.3 CT	2.7	2½ × 2½	C	3.0	15.79	14.94	13.28	12.58
9175	300-0-300	70	5.0	3.0	6.3 CT	3.0	3½ × 2⅞	C	4.0	25.86	24.46	21.75	20.61
-8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	2¾ × 2½	C	2.4	17.21	16.28	14.47	13.71
H-8406	325-0-325	40	5.0	2.0	6.3 CT	2.0	3 × 2½	M		17.61	16.66	14.81	14.03
-8407	325-0-325	55	5.0	2.0	6.3 CT	2.0	3½ × 2½	C	3.2	23.19	21.94	19.50	18.47
-8422	325-0-325	150	5.0	3.0	6.3 CT	5.0	3⅞ × 3½	C	5.8	27.42	25.94	23.06	21.84
9339	325-0-325	255	5.0	3.0	12.6 CT	5.25	4⅜ × 3¾	C	8.5	38.36	36.31	32.28	30.58
-8408	340-0-340	70	5.0	2.0	6.3 CT	2.5	3⅜ × $2\frac{13}{16}$	C	3.8	21.24	20.09	17.86	16.92
-8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3⅜ × $2\frac{13}{16}$	C	4.5	23.45	22.19	19.72	18.68
-8410	360-0-360	120	5.0	3.0	6.3 CT	3.5	3¾ × 3½	C	5.5	29.69	28.09	24.97	23.66
-8411	375-0-375	150	5.0	3.0	6.3 CT	4.5	4 × $3\frac{7}{16}$	C	5.8	30.82	29.16	25.92	24.55
-8412	400-0-400	200	5.0	3.0	6.3 CT	5.0	4 × 3¾	C	8.2	36.07	34.13	30.33	28.74
-8413	400-0-400	250	5.0	4.0	6.3 CT	5.0	4½ × 3¾	C	10.0	39.80	37.66	33.47	31.71
-8414	600-0-600	200	5.0	3.0	6.3/6.3	3.0/3.0	4¼ × 3¾	C	8.3	39.41	37.28	33.14	31.40
H-8409	350-0-350	90	5.0	2.0	6.3 CT	3.0	3⅜ × $2\frac{13}{16}$	M		22.71	21.48	19.08	18.09

ith copper shorting band to reduce external magnetic field.
or half-wave circuits.

ISOLATION TRANSFORMERS

lectrostatic shields grounded to core. Primary 50/60 Hz, line cord. May be operated from a 400 Hz source with no ange in output.

STRAIGHT ISOLATION

condary female receptacle, except P-6411, P-6411A, P-6412, P-6413 and P-8622 have lead wires.

Stancor No.	Cap. VA	Voltage Input	Voltage Output	Mtg. Type	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
-413	0.6	115	115	A	2½ × 1¼ × 1½	$ 7.43	$ 7.03	$ 6.25	$ 5.92
-411	15	115	115	A	3¼ × 1⅞ × 2	7.76	7.34	6.53	6.16
-411A	15	115	115	HE	3¼ × 1⅞ × 2	8.72	8.25	7.33	6.95
-412	35	115	115	A	3⅝ × 2 × 2¾	9.12	8.63	7.67	7.23
-410	50	115	115	C	$2\frac{13}{16}$ × 3⅛ × 3½	25.04	23.69	21.06	19.95
160*	100	105/115/125	115	C	3¾ × 3¾ × $4\frac{11}{16}$	49.91	47.22	41.97	39.76
622	150	115‡	115/230#	C	3⅛ × 4 × 3⅞	24.99	23.64	21.01	19.91
161*	250	105/115/125	115	C	3¾ × 5½ × $4\frac{11}{16}$	77.56	73.38	65.22	61.79
298*	500	105/115/125	115	C	5⅛ × 7¼ × 7⅝	170.53	161.34	143.42	135.87

STEP-DOWN ISOLATION

condary female receptacle. P-6406 has lead wires.

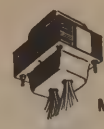
-406	50	115/230‡§	115	A	3¾ × $2\frac{5}{16}$ × 2¾	$ 10.77	$ 10.19	$ 9.06	$ 8.58
383*	100	210/230/250	115	C	3¾ × 3¾ × $4\frac{11}{16}$	47.20	44.66	39.69	37.61
385*	250	210/230/250	115	C	3¾ × 5½ × $4\frac{11}{16}$	60.38	57.13	50.78	48.11
387*	500	210/230/250	115	FS	5⅛ × 7½ × 7¾	172.59	163.28	145.14	137.50
389	1000	210/230/250	115	FS	5⅛ × 7¾ × 7⅝	175.59	166.13	147.67	139.90
390	1500	210/230/250	115	FS	5⅛ × 9¼ × 7⅝	226.49	214.28	190.47	180.45

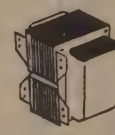
as primary switch. ‡Has electrostatic shield. #Secondary is two separate 115 windings.

ISOLATION TESTING

condary three female receptacles.

P-6415	350	117	105/115/125	C	4⅛ × $5\frac{13}{16}$ × 5½	71.46	67.67	53.77	50.65

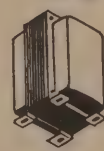

M


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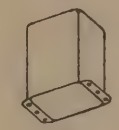
PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

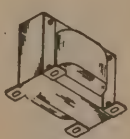

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PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

RECTIFIER, CONTROL AND FILAMENT TRANSFORMERS

WITH SINGLE SECONDARY

All primaries 50/60 Hz. May be operated from a 400 Hz source with no change in output rating. All secondary voltages ±3%. Insulation test voltage is twice allowable rms working voltage plus 1000 volts.

Stancor No.	Secondary V	Secondary A	Insul. Test Vrms	Prl. V	Termination Prl.	Termination Sec.	Mtg.	Size, Inches H. × W. × D.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-8628	2.5 CT	0.3	1500	117	Leads	Leads	A	1¼ × 2⅛ × $1\frac{5}{16}$	$6.14	$5.81	$5.17	$4.99
P-8629	2.5	1.0	1500	117	Leads	Leads	A	1⅝ × 2⅜ × 1⅜	6.44	6.09	5.42	5.19
P-4026	2.5	1.5	2500	117	Leads	Leads	A	1⅝ × 2⅞ × 1⅝	6.54	6.19	5.50	5.21
P-6133*	2.5 C.T.	5.0	7500	117	Leads	Leads	S	2¾ × 3⅛ × 2¼	14.34	13.56	12.06	11.42
P-3024*	2.5 C.T.	10.0	2500	117/107	Leads	Leads	C	3⅛ × 2½ × 2¾	18.70	17.69	15.72	14.90
P-6454	2.5 C.T.	10.0	7500	117/107	Leads	Leads	S	3½ × 3¾ × 2½	15.06	14.24	12.67	12.00
P-3060	2.5 C.T.	10.0	10000	117	Lugs	Lugs	NV	$3\frac{7}{16}$ × $2\frac{13}{16}$ × 2¾	18.56	17.56	15.61	14.79
P-6467	5.0 C.T.	3.0	2500	117	Leads	Leads	A	2 × 3¼ × 2⅛	9.78	9.25	8.22	7.79
P-6455	5.0 C.T.	6.0	2000	117/107	Leads	Leads	S	2¾ × 3⅛ × 2¼	9.94	9.41	8.36	7.92
P-3062*	5.0 C.T.	8.0	2500	117	Lugs	Lugs	NV	3⅛ × 2½ × 2¼	15.43	14.59	12.97	12.29
P-6135	5.0 C.T.	10.0	2500	117	Leads	Leads	NV	3⅛ × 2½ × 2¾	19.85	18.78	16.69	15.82
P-6433*	5.0 C.T.	15.0	2500	117	Leads	Leads	NV	3⅛ × 2½ × 2¾	20.05	18.97	16.86	15.97
F-516	5.0 C.T.	20.0	2500	115/230	Terms	Terms	SC	$4\frac{11}{16}$ × $4\frac{7}{16}$ × $3\frac{11}{16}$	52.09	49.28	43.81	41.50
P-6492	5.0 C.T.	30.0	2500	117	Leads	Leads	C	$4\frac{11}{16}$ × 3¾ × 4	33.33	31.53	28.03	26.56
P-6466*	5.0 C.T.	30.0	2500	117/107	Lugs	Lugs	C	4¼ × $3\frac{7}{16}$ × 3⅝	36.76	34.78	30.92	29.29
P-8385	6.3 C.T.	0.3	1500	117	Leads	Leads	A	1¼ × 2⅛ × 1¾	5.78	5.47	4.86	4.61
P-6465	6.3 C.T.	0.6	1500	117	Leads	Leads	A	1⅜ × 2⅜ × 1½	5.35	5.06	4.50	4.26
P-8705	6.3 C.T.	0.6	1500	230	Leads	Leads	A	1⅜ × 2⅜ × 1½	7.07	6.69	5.94	5.63
P-6389	6.3	1.0	1500	117	Leads	Leads	A	1⅝ × 2⅞ × 1⅝	6.36	6.02	5.35	5.07
P-6134	6.3 C.T.	1.2	3000	117	Leads	Leads	A	1⅝ × 2⅞ × 1⅞	6.36	6.02	5.35	5.07
P-8190	6.3	1.2	5000	117	Leads	Leads	A	2 × 3¼ × 1⅞	8.06	7.63	6.78	6.42
P-8191	6.3	1.2	5000	6.3	Leads	Leads	A	2 × 3¼ × 2	11.56	10.94	9.72	9.21
P-5014*	6.3 C.T.	3.0	2500	117	Lugs	Lugs	NV	3⅛ × 2½ × 2½	10.57	10.00	8.89	8.42
P-6466	6.3 C.T.	3.0	2500	117	Leads	Leads	A	2 × 3¼ × 2⅛	8.92	8.44	7.50	7.11
P-6462	6.3	3.0	7000	117/107	Leads	Leads	S	3⅛ × 3⅝ × 2¾	14.43	13.66	12.14	11.50
P-4019*	6.3 C.T.	4.0	2500	117/107	Leads	Leads	C	3⅛ × 2½ × 2¾	16.42	15.53	13.81	13.08
P-6648	6.3 C.T.	4.0	1500	117	Leads	Leads	A	2¾ × 3¾ × 2⅛	10.93	10.34	9.19	8.71
P-6649	6.3 C.T.	5.0	1500	117	Leads	Leads	A	2¾ × 3¾ × 2⅛	11.89	11.25	10.00	9.47
P-3064*	6.3 C.T.	6.0	2500	117	Lugs	Lugs	NV	3⅛ × 2½ × 2¾	17.51	16.56	14.72	13.96
P-4089	6.3 C.T.	6.0	2500	117/107	Leads	Leads	C	3½ × $2\frac{13}{16}$ × 3¼	19.36	18.31	16.28	15.42
P-6456	6.3 C.T.	6.0	2000	117/107	Leads	Leads	A	2¾ × 3¾ × 2⅜	13.64	12.91	11.47	10.87
P-6651	6.3 C.T.	8.0	1500	117	Leads	Leads	A	2¾ × 4 × 2¼	14.95	14.14	12.57	11.91
P-6464	6.3 C.T.	10.0	2000	117	Leads	Leads	C	3½ × $2\frac{13}{16}$ × 3¼	21.07	19.94	17.72	16.79
P-6306*	6.3 C.T.	10.0	2500	117/107	Leads	Leads	NV	$3\frac{7}{16}$ × $2\frac{13}{16}$ × 2¾	17.94	16.97	15.08	14.29
P-6189	6.3 C.T.	20.0	2500	117	Leads	Leads	C	3⅞ × 3⅛ × 4¼	27.06	25.59	22.75	21.55
P-6309	6.3 C.T.	20.0	2500	117/107	Leads	Leads	NV	$4\frac{9}{16}$ × 3¾ × 3⅜	31.71	30.00	26.67	25.28
P-5015*	7.5 C.T.	4.0	2500	117	Lugs	Lugs	NV	3⅛ × 2½ × 2¼	15.62	14.78	13.14	12.45
P-6136*	7.5 C.T.	8.0	2500	117	Leads	Leads	NV	$3\frac{13}{16}$ × 3⅛ × 2¾	24.21	22.91	20.36	19.29
P-6457	7.5 C.T.	21.0	2000	117/107	Leads	Leads	C	4⅜ × 3¾ × 4	33.89	31.86	28.33	26.84
P-8652	10.0 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 1⅝	7.96	7.53	6.69	6.34
P-8653	10.0 C.T.	2.0	1500	117	Leads	Leads	A	2 × 3¼ × 2	9.32	8.81	7.83	7.42
P-8380	10.0 C.T.	3.0	1500	117	Leads	Leads	A	2¾ × 3⅜ × 2¼	11.06	10.46	9.32	8.83
P-8654	10.0 C.T.	4.0	1500	117	Leads	Leads	A	2⅜ × 4 × 2⅛	13.94	13.19	11.72	11.11
P-5016*	10.0 C.T.	4.0	2500	117	Lugs	Lugs	NV	$3\frac{7}{16}$ × $2\frac{13}{16}$ × 2½	16.28	15.41	13.69	12.97
P-8458	10.0 C.T.	5.0	2000	117/107	Leads	Leads	NV	$3\frac{1}{16}$ × 2½ × 2½	17.28	16.34	14.53	13.76
P-8655	10.0 C.T.	6.0	1500	117	Leads	Leads	NV	3⅛ × 2½ × 2¾	16.80	15.89	14.13	13.38
P-8656	10.0 C.T.	8.0	1500	117	Leads	Leads	NV	$3\frac{7}{16}$ × $2\frac{13}{16}$ × 3	17.57	16.91	15.03	14.24
P-6139*	10.0 C.T.	8.0	2500	117	Leads	Leads	NV	$3\frac{13}{16}$ × 3⅛ × 3	25.86	24.47	21.75	18.66
P-4097*	10.00 C.T.	8.0	2500	117/107	Leads	Leads	C	3⅞ × 3⅛ × 3¾	29.30	27.72	24.64	23.34
P-6461	10.0 C.T.	10.0	2000	117	Leads	Leads	C	3⅞ × 3¼ × $3\frac{9}{16}$	28.64	27.09	24.08	22.82
P-3020*	11.0 C.T.	10.0	2500	117/107	Leads	Leads	C	$4\frac{11}{16}$ × 3¾ × 3⅝	27.55	26.06	23.17	21.95
P-8390	12.0	0.15	1500	117	Leads	Leads	A	1¼ × 2⅛ × 1¼	5.95	5.63	5.00	4.74
P-8391	12.0	0.35	1500	117	Leads	Leads	A	1⅜ × 2⅜ × 1⅜	6.54	6.19	5.50	5.21
P-8392	12.0	0.70	1500	117	Leads	Leads	A	1⅝ × 2⅞ × 1⅝	6.90	6.53	5.81	5.50
P-8393	12.0	1.2	1500	117	Leads	Leads	A	2 × 3¼ × 1⅝	8.26	7.81	6.94	6.58
P-8657	12.0	2.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	7.43	7.03	6.25	5.92
P-8658	12.0	4.0	1500	117	Leads	Leads	A	2⅜ × 4 × 2¼	12.96	12.27	10.90	10.33
P-8659	12.0	6.0	1500	117	Leads	Leads	NV	$3\frac{7}{16}$ × $2\frac{13}{16}$ × 2¾	18.60	17.59	15.64	14.82
P-8660	12.0	8.0	1500	117	Leads	Leads	NV	$3\frac{13}{16}$ × 3⅛ × 2¾	18.04	17.06	15.17	14.37
P-8384	12.6 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 1¾	8.06	7.63	6.78	6.42
P-8130	12.6 C.T.	2.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	8.09	7.66	6.81	6.45
P-8715	12.6 C.T.	2.0	1500	230	Leads	Leads	A	2 × 3¼ × 2⅛	9.78	9.25	8.22	7.79
P-8356	12.6 C.T.	3.0	1500	117	Leads	Leads	A	2¾ × 3¾ × 2¼	10.83	10.25	9.11	8.63
P-8641	12.6 C.T.	4.0	1500	117	Leads	Leads	A	2¾ × 4 × 2¾	13.48	12.75	11.33	10.74
P-8716	12.6 C.T.	4.0	2500	230	Leads	Leads	A	2¾ × 4 × 2¾	12.78	12.09	10.75	10.18
P-8642	12.6 C.T.	6.0	1500	117	Leads	Leads	C	3½ × $2\frac{13}{16}$ × 3¼	18.50	17.50	15.56	14.74
P-8643	12.6 C.T.	8.0	1500	117	Leads	Leads	C	3⅞ × 3½ × 3¾	27.94	26.44	23.50	22.26
P-8644	12.6 C.T.	10.0	1500	117	Leads	Leads	C	4¼ × $3\frac{7}{16}$ × 3¼	34.45	32.59	28.97	27.45
P-8604	20.0 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	9.78	9.25	8.22	7.89
P-8394	24.0 C.T.	0.085	1500	117	Leads	Leads	A	1¼ × 2⅛ × 1¼	7.02	6.64	5.90	5.59
P-8720	24.0 C.T.	0.085	1500	230	Leads	Leads	A	1¼ × 2⅛ × 1¼	7.43	7.03	6.25	5.92
P-8395	24.0 C.T.	0.20	1500	117	Leads	Leads	A	1⅜ × 2⅜ × 1⅜	6.94	6.56	5.83	5.53
P-8721	24.0 C.T.	0.20	1500	230	Leads	Leads	A	1⅜ × 2⅜ × 1⅜	7.17	6.78	6.03	5.71
P-8396	24.0 C.T.	0.40	1500	117	Leads	Leads	A	1⅝ × 2⅞ × 1⅝	7.83	7.41	6.58	6.24
P-8722	24.0 C.T.	0.40	1500	230	Leads	Leads	A	1⅝ × 2⅞ × 1½	9.12	8.63	7.67	7.26
P-8397	24.0 C.T.	0.70	1500	117	Leads	Leads	A	2 × 3¼ × 1¾	7.86	7.44	6.61	6.26
P-8723	24.0 C.T.	0.70	1500	230	Leads	Leads	A	2 × 3¼ × 1¾	8.85	8.38	7.44	7.05
P-8661	24.0 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × $2\frac{1}{16}$	8.14	7.70	6.85	6.48
P-8662	24.0 C.T.	2.0	1500	117	Leads	Leads	A	2⅜ × 4 × 2⅛	12.39	11.72	10.42	9.87
P-8663	24.0 C.T.	4.0	1500	117	Leads	Leads	NV	$3\frac{13}{16}$ × 3⅛ × $2\frac{13}{16}$	18.30	17.31	15.40	14.58
P-8664	24.0 C.T.	6.0	1500	117	Leads	Leads	NV	$4\frac{3}{16}$ $3\frac{7}{16}$ × 3	27.25	25.78	22.91	21.71
P-8665	24.0 C.T.	8.0	1500	117	Leads	Leads	NV	$4\frac{3}{16}$ × $3\frac{7}{16}$ × 3⅛	31.54	29.84	26.53	25.13
P-8666	24.0 C.T.	12.0	1500	117	Leads	Leads	NV	$4\frac{9}{16}$ × 3¾ × 4⅛	41.96	39.69	35.28	33.42

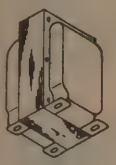
*Has electrostatic shield.

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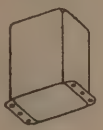
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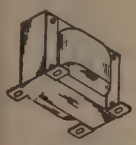

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PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

RECTIFIER, CONTROL AND FILAMENT TRANSFORMERS (Continued)

WITH SINGLE SECONDARY

Stancor No.	Secondary V	Secondary A	Insul. Test V rms	Pri. V	Termination Pri.	Termination Sec.	Mtg.	Size, Inches H. × W. × D.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-6469	25.2	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	$8.26	$7.81	$6.94	$6.58
P-6707	25.2	1.0	1500	230	Leads	Leads	A	2 × 3¼ × 2⅛	9.65	9.13	8.11	7.68
P-6180	25.2 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 2¼	8.26	7.81	6.94	6.58
P-6357	25.2 C.T.	2.0	1500	117	Leads	Leads	A	2⅜ × 4 × 2¼	10.22	9.67	8.60	8.15
P-6388	25.2 C.T.	2.8	1500	117	Leads	Leads	A	2⅜ × 4 × 2¼	13.96	13.20	11.74	11.12
P-6645	25.2 C.T.	5.0	1500	117	Leads	Leads	C	4¼ × 3 7/16 × 3⅞	30.26	28.63	25.44	24.11
P-6646	25.2 C.T.	7.5	1500	117	Leads	Leads	C	4¼ × 3½ × 4¼	36.93	34.94	31.06	29.42
P-6647	25.2 C.T.	10.0	1500	117	Leads	Leads	C	4 11/16 × 3¾ × 5	52.52	49.69	44.17	41.84
P-6606	26.0 C.T.†	0.04	2500	117▲	Leads	Leads	A	1¼ × 2⅛ × 1⅜	8.69	8.22	7.31	6.92
P-6607	26.0 C.T.†	0.25	2500	117▲	Leads	Leads	A	1⅝ × 2⅛ × 1¾	8.98	8.50	7.56	7.16
P-6608	26.5 C.T.	0.6	2500	117	Leads	Leads	A	2 × 3¼ × 2⅛	9.21	8.72	7.75	7.34
P-6609	26.8 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	7.76	7.34	6.53	6.18
P-6600	28.0 C.T.	0.065	1500	117	Leads	Leads	A	1¼ × 2⅛ × 1¼	6.84	6.47	5.75	5.45
P-6601	28.0 C.T.	0.175	1500	117	Leads	Leads	A	1⅜ × 2⅛ × 1⅜	7.07	6.69	5.94	5.63
P-6602	28.0 C.T.	0.3	1500	117	Leads	Leads	A	1⅝ × 2⅛ × 1⅝	8.06	7.63	6.78	6.42
P-6603	28.0 C.T.	0.8	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	9.03	8.55	7.60	7.18
P-6667	28.0 C.T.	1.0	1500	117	Leads	Leads	A	2 × 3¼ × 2⅛	8.92	8.44	7.50	7.11
P-6668	28.0 C.T.	2.0	1500	117	Leads	Leads	NV	3⅛ × 2½ × 2½	15.52	14.65	13.06	12.37
P-6669	28.0 C.T.	4.0	1500	117	Leads	Leads	NV	3 13/16 × 3⅛ × 3¼	21.24	20.09	17.86	16.92
P-6670	28.0 C.T.	6.0	1500	117	Leads	Leads	NV	4 3/16 × 3 7/16 × 3½	25.27	23.91	21.25	20.13
P-6610	36.0 C.T.	0.065	1500	117	Leads	Leads	A	1¼ × 2⅛ × 1¼	6.77	6.41	5.69	5.40
P-6728	36.0 C.T.	0.065	1500	230	Leads	Leads	A	1¼ × 2⅛ × 1¼	7.50	7.09	6.31	5.97
P-6611	36.0 C.T.	0.135	1500	117	Leads	Leads	A	1⅜ × 2⅛ × 1⅜	7.00	6.63	5.89	5.58
P-6612	36.0 C.T.	0.3	1500	117	Leads	Leads	A	1⅝ × 2⅛ × 1⅝	8.46	8.00	7.11	6.74
P-6613	36.0 C.T.	0.55	1500	117	Leads	Leads	A	2 × 3¼ × 1⅞	8.82	8.34	7.42	7.03
P-6671	36.0 C.T.	1.0	1500	117	Leads	Leads	A	2⅜ × 3¾ × 2¼	11.36	10.75	9.56	9.05
P-6672	36.0 C.T.	2.0	1500	117	Leads	Leads	NV	3 7/16 × 2 13/16 × 2¾	18.30	17.31	15.39	14.58
P-6673	36.0 C.T.	4.0	1500	117	Leads	Leads	NV	4 3/16 × 3 1/16 × 2⅞	27.68	26.19	23.28	22.05
P-6674	36.0 C.T.	6.0	1500	117	Leads	Leads	NV	4 9/16 × 3¾ × 3½	34.78	32.91	29.25	27.71
P-6605	48.0 C.T.†	1.0	2500	117‡	Leads	Leads	A	2⅜ × 4 × 2¾	19.96	18.91	16.81	15.92

†Nominal. ▲Primary tapped to provide secondary voltages of 24.5 C.T., 27.5 C.T. or 29.0 C.T. ‡Primary tapped to provide secondary voltages of 45 C.T., 51 C.T. or 54 C.T.

WITH DUAL C.T. SECONDARIES

All primaries 50/60 Hz, except as indicated (●). May be operated from 400 Hz source with no change in output rating. All secondary voltages ±3%. Secondary windings may be connected in series or parallel if properly phased. Insulation test voltage is twice allowable R.M.S. voltage plus 1000 volts.

Stancor No.	Secondaries* V	Secondaries* A	Insul. Test V rms	Pri. V	Termination Pri.	Termination Sec.	Mtg.	Size, Inches H. × W. × D.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-6680	12.0 C.T. 12.0 C.T.	0.1 0.1	1500 1500	115	Lugs	Lugs	S	2 × 2⅜ × 1⅝	$11.76	$11.13	$9.89	$9.37
P-6681	12.0 C.T. 12.0 C.T.	0.25 0.25	1500 1500	115	Lugs	Lugs	S	2⅜ × 2⅛ × 1¾	10.44	9.86	8.78	8.32
P-6682	12.0 C.T. 12.0 C.T.	0.5 0.5	1500 1500	115	Lugs	Lugs	S	2⅜ × 2⅛ × 1⅞	15.16	14.34	12.75	12.08
P-6683	12.0 C.T. 12.0 C.T.	1.0 1.0	1500 1500	115	Lugs	Lugs	S	2¾ × 3⅛ × 2¼	11.83	11.19	9.94	9.42
P-6676	12.0 C.T. 12.0 C.T.	1.0 1.0	1500 1500	115	Lugs	Lugs	NH	2½ × 3 × 2 9/16	14.50	13.72	12.19	11.55
P-6677	12.0 C.T. 12.0 C.T.	2.0 2.0	1500 1500	115	Lugs	Lugs	NH	2½ × 3 × 3	15.89	15.03	13.36	12.66
P-6678	12.0 C.T. 12.0 C.T.	4.0 4.0	1500 1500	115	Lugs	Lugs	NH	3½ × 3¾ × 2 15/16	24.48	23.16	20.58	19.50
P-6679	12.0 C.T. 12.0 C.T.	6.0 6.0	1500 1500	115	Lugs	Lugs	NH	3½ × 4⅛ × 3 1/16	29.53	27.94	24.83	23.53
P-6684	18.0 C.T. 18.0 C.T.	1.0 1.0	1500 1500	115#	Lugs	Lugs	NH	2½ × 3 × 2½	17.77	16.81	14.94	14.16
P-6685	18.0 C.T. 18.0 C.T.	2.0 2.0	1500 1500	115#	Lugs	Lugs	NH	3¼ × 3 13/16 × 3⅛	21.14	20.00	17.78	16.84
P-6686	18.0 C.T. 18.0 C.T.	4.0 4.0	1500 1500	115#	Lugs	Lugs	NH	3 9/16 × 4⅛ × 3⅛	33.86	32.03	28.47	26.97
P-6687	18.0 C.T. 18.0 C.T.	8.0 8.0	1500 1500	115#	Lugs	Lugs	NH	3⅞ × 4½ × 4⅛	42.44	40.16	35.69	33.82
P-6688	18.0 C.T. 18.0 C.T.	12.0 12.0	1500 1500	115#●	Lugs	Lugs	NH	4 7/16 × 5¼ × 4¼	53.25	50.38	44.78	42.42
P-6675	34.0 C.T. 34.0 C.T.	4.0 4.0	1500 1500	115	Lugs	Lugs	NH	3¾ × 4½ × 4¼	39.67	37.53	33.36	31.61

#60 Hz operation only. *R.M.S. values. ● Tapped at 100/105/110/115 volts.

MULTIPLE SECONDARY FILAMENT TRANSFORMERS

Primary 117 V. Insul. test, 2500 V rms, except model P-6434, 1500 V rms. Mtg. "C". Lead terminations.

Stancor No.	Secondary Volts	Secondary Amps	Size, Inches D. × W. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-6426*	6.3, 6.3, 6.3, 6.3†	1.75, 1.75, 1.75, 1.75	3½ × 2½ × 3½	$21.44	$20.28	$18.03	$17.08
P-6430*	6.3†, 6.3†	3.0, 3.0	2⅞ × 2½ × 3½	17.11	16.19	14.39	13.63
P-6429*	6.3, 6.3, 6.3, 6.3†	3.5, 3.5, 3.5, 3.5	3½ × 3½ × 3⅝	25.07	23.72	21.08	19.97
P-6431*	6.3†, 6.3†	6.0, 6.0	3½ × 3⅝ × 3⅝	25.50	24.13	21.44	20.32
P-6434	12.6, 12.6†	2.5, 2.5	3¼ × 2 13/16 × 3½	20.84	19.72	17.53	16.61

*Has electrostatic shield. †Center tapped. Windings may be connected in series or parallel if properly phased.

MULTITAPPED FOR TUBE CHECKERS

Primary 117 V. Insulation test, 1500 V. Mounting A. Terminations, leads on primary—leads and lugs on secondary.

P-1834-3	1.1, 1.4, 1.5, 2.0, 2.5, 3.3, 4.0, 5.0, 6.3, 7.0, 7.5, 12.0, 20, 25, 30, 35, 50, 70, 85, 107, 117	3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 3.0, 0.8, 0.8, 0.8, 0.6, 0.5, 0.3, 0.2, 0.2, 0.2	2⅝ × 4 × 2⅞	$33.36	$31.56	$28.06	$26.58

HIGH CURRENT FILTER CHOKES

Inductance measured at 1 volt, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 volts. Lead termination.

Stancor No.	Inductance mH	DC Amps	DC Resis. Ohms	Insul. Test Vrms	Mtg. Type	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
TC-1	3.0	1.0	.25	1000	A2	1½ × 1⅛ × 13/16	$3.40	$3.22	$2.86	$2.71
TC-2	11.0	1.0	.75	1000	A2	1½ × 1⅛ × 13/16	4.10	3.88	3.44	3.26
C-2690	300 or 75	1.0 2.0	3.0 .75	1500	NV	2 13/16 × 3 × 3 7/16	22.63	21.41	19.03	18.03
C-2685	35	2.0	.75	1500	NH	2⅜ × 2⅛ × 2 5/16	13.44	12.72	11.31	10.71
C-2691	80 or 20	2.5 5.0	.60 .15	1500	NV	3⅛ × 3½ × 3 13/16	26.13	24.72	21.97	20.82
C-2686	25	4.0	.425	1500	NH	3⅜ × 2⅜ × 2⅞	17.97	17.00	15.11	14.32
C-2687	10	8.0	.15	1500	NH	3¾ × 3 × 3 3/16	20.31	19.22	17.08	16.18
C-2688	10	12.5	.11	1500	NH	4⅛ × 2⅞ × 3½	27.88	26.38	23.44	22.21
C-2689	5	22.5	.03	1500	NH	4½ × 4⅜ × 3 13/16	42.78	40.47	35.97	34.08
C-2692	24 6	20 40	.12 .029	1500	NV	4 7/16 × 5¼ × 5¼	105.37	99.69	88.61	83.95

MINIATURIZED HIGH CURRENT CHOKES

Inductance measured at 1 V, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 V. Lead termination.

Stancor No.	Inductance mH	DC Amps	DC Resis. Ohms	Insul. Test Vrms	Mtg. Type	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
C-2722	400	.135	31	1500	A	2⅛ × 1⅛ × 1¼	$4.36	$4.13	$3.67	$3.47
C-2724	250	.275	16	1500	A	2⅜ × 1¼ × 1 7/16	4.20	3.97	3.53	3.34
C-2728	75	1.000	2.5	1500	A	3¼ × 1 11/16 × 2	5.91	5.59	4.97	4.71

LOW CURRENT "VERSATILE" CONTROL/RECTIFIER TRANSFORMERS

Primary 117 V, 50/60 Hz. Three isolated 12-volt secondaries (one with a center tap) provide many combinations of voltage and current with series or parallel connections. Ideal for pilot lamps, miniature relays, low current-low voltage power supplies, etc. Mounting type S.

Stancor No.	Secondary No. 1 V	No. 1 A	No. 2 V	No. 2 A	No. 3 V	No. 3 A	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-8361	12	.10	12	.10	12 CT	.10	2 × 1½ × 1¾	$6.57	$6.22	$5.53	$5.24
P-8362	12	.15	12	.15	12 CT	.15	2⅜ × 1¾ × 2	10.41	9.84	8.75	8.29
P-8363	12	.25	12	.25	12 CT	.25	2⅞ × 1¾ × 2⅜	10.70	10.13	9.00	8.53
P-8364	12	.50	12	.50	12 CT	.50	2⅞ × 2½ × 2⅜	11.92	11.28	10.03	9.50

MINIATURE POWER TRANSFORMERS

Primary 115 V, 50-60 Hz. Insulation test voltage, 500 V rms between all windings and to core. Printed circuit board mounting with plug-in type terminals.

1.5 VA RATING

Size: 1⅛" h. × 1 13/32" w. × 1 5/32" d. Weight: 0.22 lb. Style PC.

Stancor No.	Output from two secondaries Individually	Parallel	Series	Net Each, Lots of 1-9	10-24	25-49	50-99
PPC-1	4 V @ .188 A	7 V @ .376 A	8 V @ .188 A	$8.56	$8.09	$7.19	$6.82
PPC-2	7.5 V @ .100 A	7.5 V @ .200 A	15 V @ .100 A	8.53	8.08	7.18	6.80
PPC-3	15 V @ .050 A	15 V @ .100 A	30 V @ .050 A	9.08	8.59	7.64	7.24
PPC-4	27 V @ .028 A	27 V @ .056 A	54 V @ .028 A	9.63	9.11	8.10	7.67
PPC-5	38 V @ .020 A	38 V @ .040 A	76 V @ .020 A	10.27	9.72	8.64	8.18
PPC-6	58 V @ .013 A	58 V @ .026 A	116 V @ .013 A	11.46	10.84	9.64	9.13
PPC-7	20 V @ .038 A	20 V @ .076 A	40 V @ .038 A	10.41	9.84	8.75	8.29

4.5 VA RATING

Size: 1 13/32" h. × 2⅜" w. × 1¼" d. Weight: 0.47 lb. Style APC.

PPC-11	4 V @ .562 A	4 V @ 1.13 A	8 V @ .562 A	$7.48	$7.08	$6.29	$5.96
PPC-12	7.5 V @ .300 A	7.5 V @ .600 A	15 V @ .300 A	7.48	.708	6.29	5.96
PPC-13	15 V @ .150 A	15 V @ .300 A	30 V @ .150 A	7.48	7.08	6.29	5.96
PPC-14	27 V @ .084 A	27 V @ .168 A	54 V @ .084 A	7.48	7.08	6.29	5.96
PPC-15	38 V @ .060 A	38 V @ .120 A	76 V @ .060 A	6.99	6.61	5.88	5.57
PPC-16	58 V @ .033 A	58 V @ .066 A	116 V @ .033 A	7.48	7.08	6.29	5.96
PPC-17	20 V @ .112 A	20 V @ .224 A	40 V @ .112 A	7.85	7.42	6.60	6.25

7.5 VA RATING

Size: 1⅝" h. 2 13/16" w. × 1 15/32" d. Weight: 0.66 lb. Style APC.

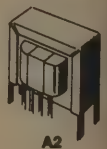
PPC-21	4 V @ .940 A	4 V @ 1.88 A	8 V @ .940 A	$8.84	$8.36	$7.43	$7.04
PPC-22	7.5 V @ .500 A	7.5 V @ 1.00 A	15 V @ .500 A	9.00	8.52	7.57	7.17
PPC-23	15 V @ .250 A	15 V @ .500 A	30 V @ .250 A	8.84	8.36	7.43	7.04
PPC-24	27 V @ .140 A	27 V @ .280 A	54 V @ .140 A	9.00	8.52	7.57	7.17
PPC-25	38 V @ .100 A	38 V @ .200 A	76 V @ .100 A	9.00	8.52	7.57	7.17
PPC-26	58 V @ .065 A	58 V @ .130 A	116 V @ .065 A	9.58	9.06	8.06	7.63
PPC-27	20 V @ .188 A	20 V @ .376 A	40 V @ .188 A	8.84	8.36	7.43	7.04

MINIATURE DUAL PRIMARY POWER TRANSFORMERS

Dual primaries can be connected for 115 or 230 VAC, 50 or 60 Hz. PPC-8, style PC, weight, .22 lbs; all others, style APC, weight .47 lbs.

Stancor No.	Output from two secondaries Individually	Parallel	Series	Net Each, Lots of 1-9	10-24	25-49	50-99
PPC-8	15 V @ .050 A	15 V @ .100 A	30 V C.T. @ .050 A	$7.93	$7.50	$6.67	$6.32
PPC-18	6.3 V @ .350 A	6.3 V @ .700 A	12.6 V C.T. @ .350 A	7.80	7.38	6.56	6.21
PPC-19	8 V @ .280 A	8 V @ .560 A	16 V C.T. @ .280 A	9.00	8.52	7.57	7.17
PPC-20	12 V @ .180 A	12 V @ .360 A	24 V C.T. @ .180 A	9.00	8.52	7.57	7.17
PPC-28	10 V @ .225 A	10 V @ .450 A	20 V C.T. @ .225 A	8.89	8.41	7.47	7.08
PPC-29	115 V @ .020 A	115 V @ .040 A	230 V C.T. @ .020 A	9.28	8.77	7.79	7.38


A


A2


APC


NH


NV


PC


S


SC

PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.


A


SC


L


C


NV


PSU

PRICES ARE FOR INDIVIDUALLY BOXED UNITS. SEE LAST PAGE OF LISTING FOR OEM BULK-PACKED PRICING.

SMOOTHING FILTER CHOKES

Inductance tolerance, −15% +50% at 10 volts, 60 Hz. Insulation test voltage is twice allowable rms working voltage plus 1000 volts. Lead termination unless otherwise noted.

Stancor No.	Inductance H	DC mA	DC Resis. Ohms	Insul. Test Vrms	Mtg. Type	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
C-2345	350	5	5600	2500	A	3¼ × 1¾ × 2	$7.73	$7.31	$6.50	$6.16
C-2344	1.5	10	85	2500	A	2⅛ × 1½ × 1¼	5.38	5.09	4.53	4.29
C-2707	2.0	15	70	1500	A	2⅛ × 1½ × 1¼	3.83	3.63	3.22	3.05
C-1515	20.0	15	900	1500	A	2⅞ × 1⅜ × 1⅝	5.68	5.38	4.78	4.53
C-2346	35.0	15	1800	1500	A	2¾ × 1⅜ × 1⅝	5.85	5.54	4.75	4.50
C-2318	12.0	30	400	2000	A	2¾ × 1⅜ × 1⅝	4.53	4.28	3.81	3.61
C-1080	3.5	50	200	1500	A	2⅞ × 1⅜ × 1⅝	5.12	4.84	4.31	4.08
C-1706	4.5	50	300	1500	A	2¾ × 1¼ × 1⅜	4.06	3.84	3.42	3.24
C-1325	5.0	50	250	1500	A	2⅞ × 1¼ × 1⅝	4.79	4.53	4.03	3.82
C-1707	7.0	50	550	1500	A	2¾ × 1¼ × 1⅝	4.16	3.94	3.50	3.32
C-1333	8.0	50	450	1500	A	2⅞ × 1⅜ × 1⅝	5.68	5.38	4.78	4.53
C-1278	8.5	50	400	1500	A	2⅞ × 1⅜ × 1⅝	4.86	4.41	3.92	3.71
C-1215	9.0	50	500	1500	A	2⅞ × 1⅜ × 1⅝	4.86	4.59	4.08	3.87
C-1003	16.0	50	580	1500	A	3¼ × 1⅝ × 2	7.23	6.84	6.08	5.76
C-1355*	8.0	75	290	1500	L	2 × 2⅝ × 2	7.96	7.53	6.69	6.34
C-1002	15.0	75	400	1500	A	3¾ × 2 × 2⅜	8.23	7.78	6.92	6.55
C-1709	8.0	85	250	1500	A	3¼ × 1⅞ × 2	7.99	7.56	6.72	6.37
C-1001	10.5	110	225	3000	A	4 × 2⅛ × 2⅝	10.87	10.28	9.14	8.66
C-2303	2.5	130	100	2000	A	3¼ × 1⅝ × 2	5.95	5.63	5.00	4.74
C-2304	2.3	150	60	1500	A	3¼ × 1¾ × 2	4.36	4.13	3.67	3.47
C-1710	7.0	150	200	1500	A	4 × 2 × 2⅝	10.90	10.31	9.17	8.68
C-2327	1.5	200	85	1500	A	2⅞ × 1½ × 1⅝	5.81	5.50	4.89	4.63
C-2325	2.0	200	60	1500	A	3¾ × 1⅞ × 2⅜	9.12	8.63	7.67	7.26
C-1721	8.5	200	120	3000	NV	$2\frac{13}{16}$ × 2¾ × $3\frac{7}{16}$	18.70	17.69	15.72	14.90
C-2717	4.0	250	100	2500	A	4 × 2⅛ × 2⅝	11.07	10.47	9.31	8.82
C-1412	4.0	250	60	3000	C	$2\frac{13}{16}$ × 3⅜ × 3½	20.45	19.34	17.19	16.29
C-2343	0.75	300	32	1500	A	2⅞ × 1⅜ × 1⅝	5.02	4.75	4.22	4.00
C-2326	1.0	300	43	1500	A	3¾ × 2 × 2⅜	9.12	8.63	7.67	7.26
C-2334	2.0	300	60	1500	A	4 × 2⅛ × 2⅝	10.67	10.09	8.97	8.50
C-1722	8.0	300	80	3000	NV	3¾ × 3 × $4\frac{9}{16}$	32.54	30.78	27.36	25.92
C-2347	1.0	350	40	1500	A	3¼ × 1¾ × 2	6.97	6.59	5.86	5.55
C-2328	0.8	375	25	1500	A	3¾ × 1⅞ × 2⅜	7.86	7.44	6.61	6.26
C-2709	2.0	400	40	2500	A	4 × 2⅛ × 2⅝	14.53	13.75	12.22	11.58
C-2708	0.32	600	10	1500	A	3¼ × 1⅝ × 2	7.00	6.63	5.89	5.58

*With lugs.

STEP-DOWN AUTOTRANSFORMERS

Primary 230 V, 50/60 Hz; line cord and plug. Secondary 115 V; standard female receptacle.

Stancor No.	Cap. VA	Mtg. Type	Size, Inches W. × D. × H.	Wt., Lbs.	Net Each, Lots of 1-9	10-24	25-49	50-99
P-6287	40	C	2⅝ × 2½ × 3½	2.2	$20.94	$19.81	$17.61	$16.68
P-8620*	50	A	$13\frac{11}{16}$ × 1⅞ × $2\frac{5}{16}$	1.5	9.12	8.63	7.67	7.26
P-8630	85	C	2⅝ × 2¾ × 3½	2.5	21.01	19.86	17.67	16.74
P-8631	125	C	2⅝ × 3 × 3½	3.0	22.96	21.72	19.31	18.29
P-8632	200	C	3⅛ × 3¾ × 3⅞	4.2	29.00	27.44	24.34	23.11
P-8633	300	C	3⅛ × 4⅛ × 3⅞	5.2	32.30	30.56	27.17	25.74
P-8634	400	C	3⅛ × 4¾ × 3⅞	7.0	37.42	35.41	31.47	29.82
P-8635	500	C	3¾ × 4¾ × $4\frac{9}{16}$	10.3	52.45	49.63	44.11	41.79
P-8636	1000	C	3¼ × 6⅛ × $4\frac{9}{16}$	17.0	71.12	67.28	59.81	56.66

*Has lead wires.

STEP-UP AUTOTRANSFORMERS

Primary 115 V. 50/60 Hz; line cord and plug. Secondary 230 V; standard female receptacle.

P-8637	85	C	2⅝ × 2¾ × 3½ .	2.5	$21.70	$20.53	$18.25	$17.29
P-8638	125	C	2⅝ × 3 × 3½	3.0	22.13	20.94	18.61	17.63
P-8639	300	C	3⅛ × 3⅞ × 3⅞	5.2	32.21	30.47	27.08	25.66
P-8640	500	C	3¾ × 4¾ × $4\frac{9}{16}$	1.3	53.08	50.22	44.64	42.29

STEP-DOWN AUTOTRANSFORMERS

Grounded safety type: 3-wire NEMA standard line cord, plug and receptacle. Semi-shielded construction.

Stancord No.	Input V	Output V	Test Vrms	Cap. VA	Mtg. Type	Size, Inches W. × D. × H.	Net Each, Lots of 1-9	10-24	25-49	50-99
GSD-75	230	115	1500	75	C	$3\frac{3}{16}$ × 2¾ × 3⅞	$24.58	$23.25	$20.67	$19.58
GSD-100	230	115	1500	100	C	$3\frac{3}{16}$ × 3 × 3⅞	27.18	25.72	22.86	21.66
GSD-150	230	115	1500	150	C	$3\frac{3}{16}$ × 3¼ × 3⅞	28.04	26.53	23.58	22.34
GSD-250	230	115	1500	250	C	$3\frac{13}{16}$ × 3⅝ × 3⅞	44.06	41.69	37.06	35.11
GSD-300	230	115	1500	300	C	$3\frac{3}{16}$ × 3¾ × 3⅞	33.00	31.22	27.75	26.29
GSD-350	230	115	1500	350	C	$3\frac{13}{16}$ × $4\frac{9}{16}$ × 3⅞	38.06	36.03	32.03	30.34
GSD-500	230	115	1500	500	C	$3\frac{13}{16}$ $4\frac{7}{16}$ × 4⅝	46.54	43.94	39.06	37.00
GSD-750	230	115	1500	750	C	$3\frac{13}{16}$ × $5\frac{9}{16}$ × 4⅝	57.87	54.75	48.67	46.11
GSD-1000	230	115	1500	1000	C	$3\frac{13}{16}$ × 6 × 4⅝	67.12	63.50	56.44	53.47
GSD-1500	230	115	1500	1500	C	4⅝ × 6 × 5½	107.68	101.88	90.56	85.79

230-VOLT STEP-DOWN AUTOTRANSFORMERS

Has three-wire line cord and receptacle. Connection changes inside outlet box will provide either 208/230 volts or 230/208 volts.

PSU-3000	208/230	230/208	1750	3000	PSU	4½ × 6 × 4	52.35	49.53	44.03	41.71

ISOLATION TRANSFORMERS

Case and core and electrostatic shield internally connected to third conductor of NEMA standard cord and receptacle for safety. May be operated from a 400 Hz source with no change in output ratings.

STRAIGHT ISOLATION

GIS-100	115	115	1500	100	C	$2\frac{13}{16}$ × $3\frac{9}{16}$ × 3½	$28.11	$26.59	$23.64	$22.40
GIS-150	115	115	1500	150	C	$3\frac{3}{16}$ × $4\frac{3}{16}$ × 3⅞	35.94	34.00	30.22	28.63
GIS-250	115	115	1500	250	C	3¼ × 4⅜ × $4\frac{11}{16}$	44.06	41.69	37.06	35.11
GIS-500	115	115	1500	500	C	3¾ × 6 × $4\frac{11}{16}$	68.37	64.69	57.50	54.47
GIS-1000	115	115	1500	1000	C	$4\frac{9}{16}$ × 8⅛ × 5½	143.78	136.03	120.92	114.55

STEP-DOWN ISOLATION

GISD-100	230	115	1500	100	C	$2\frac{13}{16}$ × $3\frac{9}{16}$ × 3½	$28.18	$26.66	$23.69	$22.45
GISD-150	230	115	1500	150	C	3⅛ × $4\frac{3}{16}$ × 3⅞	37.03	35.03	31.14	29.50
GISD-250	230	115	1500	250	C	3¼ × 4¼ × $4\frac{11}{16}$	45.02	42.59	37.86	35.87
GISD-500	230	115	1500	500	C	3¾ × 6 × $4\frac{11}{16}$	67.09	63.47	56.42	53.45
GISD-1000	230	115	1500	1000	C	$4\frac{9}{16}$ × 8⅛ × 5½	118.05	111.69	99.29	94.05

ESSEX **STANCOR**

OEM Bulk Pricing

Consult us for prices on 500 pieces or more and for modified catalog items.

Stancor No.	Net Each, Lots of 100-249	250-499
A-52C	$ 5.19	$ 5.00
A-53	4.87	4.67
A-53C	5.10	4.91
A-63C	3.12	3.00
A-3250	9.31	8.96
A-3309	3.61	3.47
A-3311	12.03	11.58
A-3327	4.02	3.87
A-3328	3.48	3.35
A-3329	3.05	2.93
A-3332	3.14	3.02
A-3335	4.50	4.33
A-3800	18.18	17.50
A-3801	19.22	18.50
A-3823	6.36	6.12
A-3830	8.24	7.93
A-3831	4.61	4.43
A-3837	7.33	7.06
A-3849	7.79	7.50
A-3852	8.31	8.00
A-3856	6.03	5.81
A-3876	2.50	2.41
A-3877	3.50	3.37
A-3878	2.57	2.47
A-3879	3.14	3.02
A-3880	8.33	8.02
A-3883	7.40	7.12
A-4350	9.15	8.81
A-4351	7.57	7.28
A-4723	6.16	5.93
A-4744	3.46	3.33
A-4749	13.59	13.08
A-4779	5.02	4.83
A-7947	5.10	4.91
A-7949	10.71	10.31
A-8053	22.03	21.21
A-8055	3.57	3.43
A-8056	23.07	22.21
A-8071	1.72	1.66
A-8076	9.74	9.37
A-8077	10.41	10.02
A-8078	6.90	6.65
A-8079	6.27	6.03
A-8080	6.29	6.06
A-8081	9.09	8.75
A-8082	9.87	9.50
A-8083	5.22	5.02
A-8084	7.62	7.33
A-8087	4.64	4.47
A-8090	3.15	3.03
A-8092	2.81	2.71
A-8093	3.33	3.21
A-8095	6.14	5.91
A-8096	4.50	4.33
A-8097	9.51	9.16
A-8099	5.41	5.21
A-8101	3.11	3.00
A-8102	6.90	6.65
A-8103	10.06	9.68
A-8104	8.05	7.75
A-8105	6.29	6.06
A-8105A	7.79	7.50
A-8109	5.19	5.00
C-1001	8.25	8.02
C-1002	4.51	4.35
C-1003	4.19	4.03
C-1080	2.81	2.71
C-1215	2.55	2.46
C-1279	2.42	2.33
C-1825	2.50	2.41
C-1333	3.18	3.06
C-1355	4.58	4.41
C-1412	12.70	12.22
C-1515	3.18	3.06
C-1706	2.05	1.97
C-1707	2.11	2.03
C-1709	4.70	4.52
C-1710	6.27	6.03
C-1721	11.38	10.96
C-1722	20.77	20.00
C-2303	3.27	3.15
C-2304	2.31	2.22
C-2318	2.36	2.27
C-2325	5.42	5.22
C-2326	5.42	5.22
C-2327	3.27	3.15
C-2328	4.28	4.12
C-2334	6.12	5.90
C-2343	$ 2.66	$ 2.56
C-2344	2.98	2.87
C-2345	4.44	4.27
C-2346	3.15	3.03
C-2347	4.02	3.87
C-2685	8.27	7.96
C-2686	11.23	10.81
C-2687	12.44	11.97
C-2688	17.72	17.06
C-2689	27.07	26.06
C-2690	14.28	13.75
C-2691	16.25	15.65
C-2704	3.05	2.93
C-2707	1.90	1.83
C-2708	4.05	3.90
C-2709	8.98	8.65
C-2717	6.38	6.15
C-2722	2.31	2.22
C-2724	2.14	2.06
C-2728	3.24	3.12
F-516	33.59	32.33
GIS-100	17.88	17.21
GIS-150	23.01	22.15
GIS-250	28.33	27.27
GIS-500	44.25	42.60
GIS-1000	93.67	90.16
GISD-100	17.92	17.25
GISD-150	23.72	22.83
GISD-250	28.96	27.87
GISD-500	26.05	25.07
GISD-1000	76.81	73.93
GSD-75	15.55	14.97
GSD-100	17.27	16.62
GSD-150	17.83	17.16
GSD-250	28.33	27.27
GSD-300	21.07	20.28
GSD-350	24.41	23.50
GSD-500	29.89	28.77
GSD-750	37.37	35.97
GSD-1000	43.44	41.81
GSD-1500	70.02	67.40
P-1834-3	21.53	20.72
P-3020	17.10	16.46
P-3024	11.71	11.27
P-3060	11.46	11.03
P-3062	9.41	9.06
P-3064	10.93	10.52
P-4019	10.06	9.68
P-4026	3.74	3.60
P-4089	11.98	11.53
P-4097	18.66	17.96
P-5014	6.38	6.15
P-5015	9.54	9.18
P-5016	9.97	9.60
P-6133	8.85	8.52
P-6134	4.09	3.93
P-6135	12.36	11.90
P-6138	15.32	14.75
P-6139	16.40	15.78
P-6160	31.81	30.62
P-6161	50.28	48.40
P-6287	13.18	12.68
P-6298	111.20	107.03
P-6308	11.06	10.65
P-6309	20.23	19.47
P-6358	9.67	9.31
P-6375	5.84	5.62
P-6376	7.66	7.37
P-6377	8.18	7.87
P-6378	14.84	14.28
P-6379	26.62	25.62
P-6383	30.03	28.91
P-6385	38.59	37.15
P-6387	112.55	108.33
P-6389	114.51	110.22
P-6390	147.88	142.33
P-6406	6.45	6.21
P-6410	15.87	15.27
P-6411	4.48	4.31
P-6411A	5.16	4.97
P-6412	5.77	5.56
P-6413	4.32	4.16
P-6415	42.79	41.18
P-6425	6.94	6.68
P-6426	3.24	3.12
P-6428	13.50	13.00
P-6429	15.55	14.97
P-6430	10.51	10.12
P-6431	$ 15.84	$ 15.25
P-6433	12.57	12.10
P-6434	13.11	12.62
P-6454	9.32	8.97
P-6455	5.64	5.43
P-6456	8.40	8.08
P-6457	21.12	20.33
P-6458	10.77	10.37
P-6461	18.22	17.53
P-6462	8.92	8.58
P-6464	13.27	12.77
P-6465	3.45	3.32
P-6466	5.71	5.50
P-6467	5.87	5.65
P-6468	23.14	22.27
P-6469	5.32	5.12
P-6492	20.88	20.10
P-8130	5.38	5.18
P-8150	10.48	10.08
P-8151	23.48	22.60
P-8174	9.02	8.68
P-8175	16.40	15.78
P-8179	14.96	14.40
P-8180	5.32	5.12
P-8181	5.68	5.47
P-8189	17.10	16.46
P-8190	4.74	4.56
P-8191	8.05	7.75
P-8193	13.66	13.15
P-8194	23.05	22.18
P-8196	14.51	13.97
P-8197	8.70	8.37
P-8198	9.35	9.00
P-8339	24.19	23.28
P-8355	23.11	22.25
P-8356	18.02	17.35
P-8357	7.31	7.03
P-8358	6.55	6.31
P-8359	11.36	10.93
P-8361	3.76	3.62
P-8362	6.27	6.03
P-8363	6.46	6.22
P-8364	7.27	7.00
P-8377	19.48	18.75
P-8378	24.74	23.81
P-8380	7.05	6.78
P-8383	11.75	11.31
P-8384	4.74	4.56
P-8385	3.93	3.78
P-8388	8.80	8.47
P-8389	4.00	3.85
P-8390	3.57	3.43
P-8391	3.74	3.60
P-8392	3.98	3.83
P-8393	4.93	4.75
P-8394	4.46	4.30
P-8395	4.45	4.28
P-8396	4.84	4.66
P-8397	4.75	4.57
P-8600	3.93	3.78
P-8601	4.25	4.10
P-8602	4.74	4.56
P-8603	5.84	5.62
P-8604	5.55	5.35
P-8605	12.55	12.08
P-8606	5.15	4.96
P-8607	5.35	5.15
P-8608	5.61	5.40
P-8609	4.93	4.75
P-8610	3.89	3.75
P-8611	4.05	3.90
P-8612	5.00	4.81
P-8613	5.23	5.03
P-8614	14.16	13.65
P-8615	7.50	7.22
P-8616	7.89	7.60
P-8617	7.27	7.00
P-8618	14.41	13.87
P-8619	22.33	21.50
P-8620	5.42	5.22
P-8621	41.11	39.57
P-8622	16.36	15.75
P-8623	9.14	8.80
P-8624	4.22	4.06
P-8625	7.70	7.41
P-8626	6.19	5.96
P-8627	5.62	5.41
P-8628	3.48	3.35
P-8629	$ 3.67	$ 3.53
P-8630	13.22	12.72
P-8631	14.50	13.96
P-8632	18.46	17.77
P-8633	20.62	19.85
P-8634	23.98	23.06
P-8635	33.83	32.56
P-8636	46.06	44.33
P-8637	13.67	13.16
P-8638	13.96	13.43
P-8639	20.55	19.78
P-8640	34.24	32.96
P-8641	8.28	7.97
P-8642	11.25	10.83
P-8643	17.76	17.10
P-8644	22.03	21.21
P-8645	19.28	18.56
P-8646	23.66	22.77
P-8647	33.87	32.60
P-8648	6.62	6.37
P-8649	7.24	6.97
P-8651	9.58	9.22
P-8652	4.67	4.50
P-8653	5.55	5.36
P-8654	8.59	8.27
P-8655	10.88	10.47
P-8656	10.84	10.43
P-8657	5.23	5.03
P-8658	8.44	8.12
P-8659	11.64	11.21
P-8660	10.94	10.53
P-8661	5.19	5.00
P-8662	8.05	7.75
P-8663	11.12	10.71
P-8664	17.31	16.66
P-8665	20.12	19.37
P-8666	27.27	26.25
P-8667	5.75	5.53
P-8668	9.80	9.43
P-8669	13.05	12.56
P-8670	15.61	15.02
P-8671	6.90	6.65
P-8672	11.45	11.02
P-8673	17.59	16.93
P-8674	22.79	21.94
P-8675	25.03	24.10
P-8676	8.80	8.47
P-8677	9.71	9.35
P-8678	15.49	14.91
P-8679	18.80	18.10
P-8680	7.16	6.90
P-8681	5.97	5.75
P-8682	9.74	9.37
P-8683	6.88	6.62
P-8684	11.10	10.68
P-8685	12.98	12.50
P-8686	21.64	20.83
P-8687	27.27	26.25
P-8688	33.93	32.66
P-8705	4.09	3.93
P-8707	5.77	5.56
P-8715	5.87	5.65
P-8716	7.83	7.53
P-8720	4.32	4.16
P-8721	4.15	4.00
P-8722	5.42	5.22
P-8723	5.25	5.06
P-8728	4.37	4.21
P-9003C	22.42	21.58
PA-8421	7.05	6.78
PC-8401	11.55	11.12
PC-8402	12.62	12.15
PC-8403	12.07	11.62
PC-8404	13.50	13.00
PC-8405	15.02	14.46
PC-8406	10.58	10.18
PC-8407	14.58	14.03
PC-8408	13.67	13.16
PC-8409	14.67	14.12
PC-8410	19.35	18.62
PC-8411	19.24	18.52
PC-8412	22.68	21.83
PC-8413	25.12	24.18
PC-8414	24.87	23.93
PC-8417	9.32	8.97
PC-8418	10.64	10.25
PC-8419	14.28	13.75
PC-8420	10.93	10.52

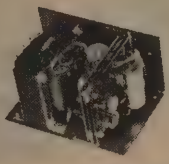
STANDARD POWER SUPPLIES

Power Supplies

ith the exception of the Black Line unregulated series, all Standard Power supplies eet the following specifications: **Input:** 115/230 VAC ± 10%, 47 to 440 Hertz. **Line d Load Regulation:** ± 0.1%, no load to full load. **Ripple:** 0.1% typically 0.5 to 2 mV rms. **Short Circuit Protection:** Fold-back current limiting, adjustable from 20% to full load. **Response Time:** 50 microseconds. **Temperature Rating:** 0° C to – 50° C (to 70° C with derating). **Adjustable Voltage Range:** ± 10%.



Series SPS-D



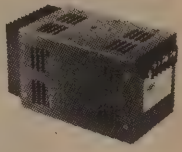
Series SPS



SERIES SPS-T



Series ESP



Series CPS

TRIPLE OUTPUT "BLUE LINE" SERIES SPS-T

Output Volts	Output Current	Model Number SPS	Net Each
, 12-15, 12-15	2, 0.25, 0.25	30TA-5/12/15	$75.00
5, – 12, – 12	2.5, 0.75, 0.75	40T-5/12/12	74.00
5, – 15, – 15	2.5, 0.75, 0.75	40T-5/15/15	86.50
, 12-15, 12-15	3, 0.7, 0.7	50TA-5/12/15	104.00
, 12-15, 12-15	5, 0.7, 0.7	60TA-5/12/15	116.00
, 12-15, 12-15	3, 1.5, 1.5	70T-5/12/15	109.50
, 12-15, 12-15	5, 1.6, 1.6	80T-5/12/15	120.00
, 5, 12-15	5, 3, 1.5	80T-5/5/12-15/	118.50
, 12-15, 24-28	5, 1.5, 1.0	80T-5/12-15/24/28	117.00
, 12-15, 12-15	7, 1.8-1.6, 1.8-1.6	90T-5/12/15	139.00
, 12-15, 12-15	7, 3, 5.0-3.0	120T-5/12/15	173.00
, 5, 12-15	7, 5, 5.0-3.0	120T-5/5/12-15	168.00
, 12-15, 24-28	7, 3.5-3.0, 1.8	120T-5/12-15/ 24-28	160.50
, 12-15, 12-15	12, 1.5, 1.5	220T-5/12/15	204.00
, 12-15, 12-15	12, 3.5-3.0, 3.5-3.0	240T-5/12/15‡	231.00
, 12-15, 12-15	12, 3.5-3.0, 3.5-3.0	250T-5/12/15‡	253.00

‡Shipped with 15V transformer tap connected.

DUAL OUTPUT "BLUE LINE" SERIES SPS-D

Outputs		Model Number	Net Each
No. 1	No. 2		
0.7A @ 12-15V	0.7 A @ 12-15V	SPS 30D 12/15	$49.50
2.0A @ 5V	0.6A @ 12-15V	SPS 30DA 5/12	53.50
0.7A @ 12-15V	0.7A @ 12-15V	SPS 30DA 12/15	53.50
3A @ 5V	1.2A @ 24V	SPS 65D-5/24†	75.00
2.0A @ 5V	2.0A @ 5V	SPS 40D 5/5	65.00
2.0A @ 5V	1.0A @ 10-12V	SPS 40D 5/12	65.00
1.2A @ 12-15V	1.2A @ 12-15V	SPS 40D 12/15	65.00
3.0A @ 5V	1.8A @ 10-12V	SPS 60D 5/12	84.00
1.8A @ 12-15V	1.8A @ 12-15V	SPS 60D 12/15	79.00
6.0A @ 5V	3.0A @ 10-12V	SPS 90D 5/12	126.00
3.0A @ 12-15V	3.0A @ 12-15V	SPS 90D 12/15	134.00
10A @ 5V	4.0A @ 10-12V	SPS 130D 5/12	151.00
5.0A @ 12-15V	5.0A @ 12-15V	SPS 130D 12/15	156.00
12A @ 5V	8.0A @ 10-12V	SPS 250D 5/12	248.00
8.0A @ 12-15V	8.0A @ 12-15V	SPS 250D 12/15	254.00

†Unregulated.

DC POWER MODULES SERIES ESP

Subminiature supplies mount on PC board.

Output		Model Number	Net Each
Amps	Volts		
0.5	5	ESP 5-500	$69.00
1.0	5	ESP 5-1000	86.50
0.12	10	ESP 10-120	45.00
0.1	15	ESP 15-100	51.50
0.12	± 12	ESP 12D-120	69.00
0.24	± 12	ESP 12D-240	84.00
0.40	± 12	ESP 12D-400	146.00
0.025	± 15	ESP 15D-25	58.50
0.10	± 15	ESP 15D-100	69.00
0.20	± 15	ESP 15D-200	84.00
0.35	± 15	ESP 15D-350	105.00

ENCLOSED "BLUE LINE" SERIES CPS

Output		Model Number	Net Each
Amps	Volts		
3.0	5	CPS 30-5	$ 65.00
6.0	5	CPS 60-5	148.00
10	5	CPS 75-5	148.50
12	5	CPS 120-5	167.00
18	5	CPS 180-5	169.00
25	5	CPS 220-5	234.00
25	5	CPS 250-5*	282.00
35	5	CPS 320-5	285.50
35	5	CPS 350-5*	318.50
50	5	CPS 500-5*	466.50
1.8	12	CPS 30-12	65.00
5.0	12	CPS 60-12	143.00
10	12	CPS 120-12	169.50
20	12	CPS 220-12	242.50
20	12	CPS 250-12*	290.50
40	12	CPS 500-12*	439.50
1.6	15	CPS 30-15	65.00
4.0	15	CPS 60-15	140.00
8.0	15	CPS 120-15	177.50
18	15	CPS 220-15	257.00
18	15	CPS 250-15*	305.00
33	15	CPS 500-15*	455.00
1.2	24/28	CPS 30-24/28	65.00
2.5	24/28	CPS 60-24/28	139.00
6.0	24/28	CPS 120-24/28	189.00
12	24/28	CPS 220-24/28	243.00
12	24/28	CPS 250-24/28	291.00
20	24/28	CPS 500-24/28*	440.00
0.6	48	CPS 30-48	70.00

*With built-in cooling fan.

OPEN FRAME "BLUE LINE" SERIES SPS

Other models available with output voltages of 48VDC, 120 VDC and 250 VDC.

Output		Model Number	Net Each
Amps	Volts		
3.0	3	SPS 30-3	$32.00
1.5	5	SPS 15-5	31.00
3.0	5	SPS 30-5	33.50
5.0	5	SPS 40-5	63.50
6.0	5	SPS 60-5	96.00
10	5	SPS 75-5	91.50
12	5	SPS 120-5	126.00
18	5	SPS 180-5	139.00
25	5	SPS 220-5*	209.50
25	5	SPS 250-5*	256.00
35	5	SPS 320-5	259.00
35	5	SPS 320-5*	293.00
3.0	6	SPS 30-6	34.50
2.0	8	SPS 30-8	33.00
1.8	10	SPS 30-10	33.00
0.8	12	SPS 15-12	31.00
1.8	12	SPS 30-12	34.00
3.5	12	SPS 40-12	63.00
5.0	12	SPS 60-12	90.50
10	12	SPS 120-12	133.00
20	12	SPS 220-12	218.00
20	12	SPS 250-12*	285.00
0.7	15	SPS 15-15	31.50
1.6	15	SPS 30-15	33.50
3.0	15	SPS 40-15	64.50
4.0	15	SPS 60-15	87.50
8.0	15	SPS 120-15	137.50
18	15	SPS 220-15	232.00
18	15	SPS 250-15*	279.50
1.5	18	SPS 30-18	35.00
0.5	24/28	SPS 15-24/28	31.00
1.2	24/28	SPS 30-24/28	33.50
1.8	24/28	SPS 40-24/28	60.00
2.5	24/28	SPS 60-24/28	90.00
6.0	24/28	SPS 120-24/28	148.00
12	24/28	SPS 220-24/28	218.50
12	24/28	SPS 250-24/28*	265.50
1.0	30	SPS 30-30	36.00
0.6	48	SPS 30-48	43.00
1.2	48	SPS 60-48	81.50
3.0	48	SPS 120-48	148.00
0.15	120	SPS 30-120	54.00
1.0	100	SPS 120-100	172.50
0.05	250	SPS 3-250	54.00
0.5	250	SPS 120-250	190.00

*With built-in cooling fan.

STANDARD POWER SUPPLIES

Power Supplies

With the exception of the Black Line unregulated series, all Standard Power supplies meet the following specifications: **Input:** 115/230 VAC ±10%, 47 to 440 Hertz. **Line and Load Regulation:** ±0.1%, no load to full load. **Ripple:** 0.1%, typically 0.5 to 2 mV rms. **Short Circuit Protection:** Fold-back current limiting, adjustable from 20% to full load. **Response Time:** 50 microseconds. **Temperature Rating:** 0° C to +50° C (to 70 C° with derating). **Adjustable Voltage Range:** ±10%.



SWITCHING SUPPLIES SERIES SWS

Output		Model Number	Net
Amps	Volts	SWS	Each
115 VAC INPUT			
25, 4.0, 4.0	5, −12, −12	250T-5/12/12	$440.50
25, 4.0, 4.0	5, −15, −15	250T-5/15/15	429.50
25, 4.0, 4.0, 1.0	5, −12, −12, −5	250Q-5/12/12/5	467.00
25, 4.0, 4.0, 1.0	5, −15, −15, −5	250Q-5/15/15/5	455.50
50	5	250-5	366.00
21	12	250-12	373.50
17	15	250-15	353.00
11	24	250-24	366.50
9	28	250-28	366.50
150	5	750-5	728.50
60	12	750-12	740.50
50	15	750-15	740.50
33	24	750-24	734.50
28	28	750-28	734.50
200	5	1000-5	973.00
83	12	1000-12	889.00
67	15	1000-15	886.00
42	24	1000-24	976.50
36	28	1000-28	963.00
230 VAC INPUT			
150	5	751-5	$ 728.50
60	12	751-12	740.50
50	15	751-15	739.50
33	24	751-24	734.50
28	28	751-28	734.50
200	5	1001-5	1023.50
83	12	1001-12	936.50
67	15	1001-15	938.00
42	24	1001-24	1026.00
36	28	1001-28	1011.00

NARROW SILHOUETTE "SLIM LINE" SERIES SLS

Output		Model	Net
Amps	Volts	Number	Each
3.0	5	SLS 32-5	$ 41.00
3.0	5	SLS 32-5/OV	42.00
6.0	5	SLS 42-5	57.50
6.0	5	SLS 42-5/OV	67.00
9.0	5	SLS 62-5/OV	117.50
12	5	SLS 92-5	120.50
12	5	SLS 92-5/OV	128.00
18	5	SLS 122-5	125.50
18	5	SLS 122-5/OV	122.50
1.8	12	SLS 32-12	40.50
3.5	12	SLS 42-12	53.00
5.0	12	SLS 62-12	112.00
6.8	12	SLS 92-12	100.00
10.2	12	SLS 122-12	119.50
1.6	15	SLS 32-15	38.50
3.0	15	SLS 42-15	54.50
4.5	15	SLS 62-15	117.00
6.0	15	SLS 92-15	112.00
9.0	15	SLS 122-15	112.00
1.2	24	SLS 32-24	40.50
2.3	24	SLS 42-24	54.50
3.6	24	SLS 62-24	105.50
4.8	24	SLS 92-24	105.50
7.2	24	SLS 122-24	118.00
1.0	28	SLS 32-28	39.00
1.8	28	SLS 42-28	55.50
3.0	28	SLS 62-28	100.00
4.0	28	SLS 92-28	97.00
6.0	28	SLS 122-28	121.50

CONSTANT CURRENT SUPPLIES SERIES SCC

Output Current Range Amps	Compliance Volts	Model Number	Net Each
.03-1.0	30	SCC 30-1	$ 63.00
.05-2.0	15	SCC 30-2	63.00
.05-2.0	30	SCC 60-2	98.00
0.1-4.0	15	SCC 60-4	97.50
0.1-4.0	30	SCC 120-4	145.00
0.1-12	8	SCC 120-12	150.00
0.1-15	15	SCC 250-15	261.00

RAW POWER "BLACK LINE" UNREGULATED SERIES B

Output		Model	Net
Amps	Volts	Number	Each
1.8	7	15B7	$ 23.50
3.0	7	30B7	26.50
6.0	7	60B7	51.50
10	7	100B7	59.00
20	7	200B7	84.00
1.2	12	15B12	23.00
2.4	12	30B12	29.00
4.8	12	60B12	51.50
7.0	12	100B12	61.00
15	12	200B12	80.00
0.9	16	15B16	24.50
1.8	16	30B16	28.50
3.6	16	60B16	52.50
6.0	16	100B16	56.50
12.5	16	200B16	86.00
0.75	20	15B20	22.50
1.5	20	30B20	30.00
3.0	20	60B20	52.50
5.0	20	100B20	60.00
10	20	200B20	81.50
0.6	24	15B24	22.50
1.2	24	30B24	28.50
2.4	24	60B24	51.00
3.5	24	100B24	60.00
7.5	24	200B24	79.50
20	24	500B24	135.00
30	24	750B24	231.00
0.3	48	15B48	24.00
0.6	48	30B48	28.50
1.2	48	60B48	53.00
1.8	48	100B48	62.50
4.0	48	200B48	95.00
10	48	500B48	140.00
0.12	120	15B120	29.00
0.25	120	30B120	35.00
0.06	250	15B250	29.00

MICROPROCESSOR SERIES SMP

Amps @ −5V	Amps @ −12V	Amps @ −5V	Amps @ −9/−12V	Model Number	Net Each
1.0*	0.5*	.....	0.4/0.5	SMP 30-1	$ 65.00
1.0*	0.5*	0.07*	0.4/0.5	SMP 30-2	68.00
3.0	0.6*	.....	0.4/0.5	SMP 50-1	95.00
3.0	0.6*	0.5*	0.4/0.5	SMP 50-2	117.50
5.0	0.6*	.....	0.4/0.5	SMP 60-1	114.50
5.0	0.6*	0.5*	0.4/0.5	SMP 60-2	123.00
6.0	1.5	.....	1.2/1.5	SMP 80-1	150.50
6.0	1.5	0.5*	1.2/1.5	SMP 80-2	161.00
8.0	2.5	.....	1.2/1.5	SMP 100-1	170.00
8.0	2.5	0.5*	1.2/1.5	SMP 100-2	182.50

*Fixed output (nominal).

ECONOMY INDUSTRIAL SUPPLIES SERIES SPE

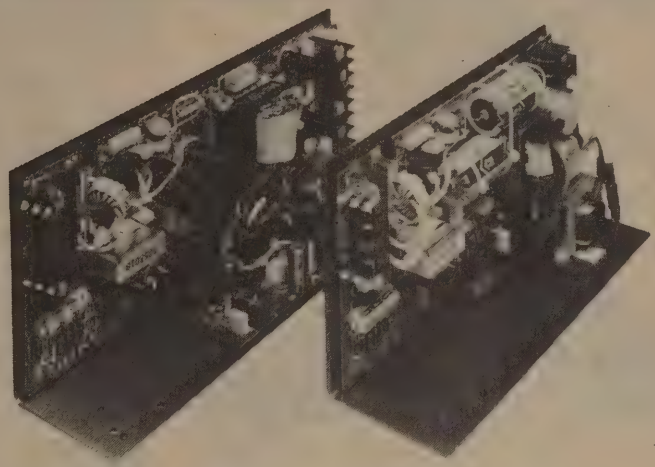
3.0	5	SPE 31-5	$ 33.50
5.0	5/6	SPE 41-5/6	64.00
0.7/0.7	±12	SPE 31D 12/12	40.00
0.7/0.7	±15	SPE 31D 15/15	40.00

STANDARD POWER Inc

NEW 150W SWITCHERS

FEATURES:

- **Current Limit**
- **Latest I.C. Regulated Design**
- **To 75% Efficiency**
- **24 Hour Burn-in**
- **Soft-Start**
- **Low Weight**
- **Low Components Count**
- **Up to 4 Outputs**



The SWS 150 Series of regulated dc switching power supplies offers nine new models to Standard Power's Switcher Family.

Utilizing the latest I.C. Technology, these supplies feature low components count, modular design, light weight and fast transient response.

SPECIFICATIONS

INPUT:

Voltage Range ..... 115/230 Vac ±15%
Frequency Range ..... 47-440 Hz

OUTPUT:

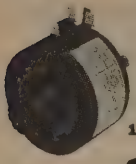
Regulation
Line (±15% change) ..... ±0.1% Maximum
Load (NL to FL) ..... ±0.2% Maximum
Ripple and Noise
(50 mega Hz) ..... 50 mV P-P Maximum
Efficiency ..... to 75% Single Output

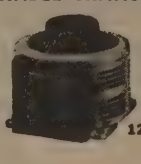
MODEL NUMBER	VOLTS	AMPS	SIZE	WEIGHT	PRICE
SWS 150-5	5	30	9.75 x 4.88 x 3.00	2 lbs 10 oz	$225.00
SWS 150-12	12	12.5	9.75 x 4.88 x 3.00	2 lbs 10 oz	$225.00
SWS 150-15	15	10	9.75 x 4.88 x 3.00	2 lbs 10 oz	$225.00
SWS 150-24	24	6.5	9.75 x 4.88 x 3.00	2 lbs 10 oz	$225.00
SWS 150-28	28	5.5	9.75 x 4.88 x 3.00	2 lbs 10 oz	$225.00
SWS 150T-5/12/12	5/12/12	20/2/2	11.25 x 4.88 x 3.00	3 lbs 5 oz	$359.00
SWS 150T-5/15/15	5/15/15	20/1.7/1.7	11.25 x 4.88 x 3.00	3 lbs 5 oz	$359.00
SWS 150Q-5/5/12/12	5/5/12/12	20/1/2/2	11.25 x 4.88 x 3.00	3 lbs 7 oz	$399.00
SWS 150Q-5/5/15/15	5/5/15/15	20/1/1.7/1.7	11.25 x 4.88 x 3.00	3 lbs 7 oz	$399.00

*Optional perforated cover — $20.00

Standard Power Supplies are the Industry's STANDARD

POWERSTAT® VARIABLE TRANSFORMERS WITH POWERKOTE® COILS


10C


126


116B


21


136B


1256D

POWERSTAT Variable Transformers with POWERKOTE Coils give an average of 20% higher current ratings, 10:1 greater overload capability, longer life, greater resistance to fungus, salt spray and other contaminating atmospheres. POWERKOTE Coil commutator bars are embedded in place, preventing steady-state operating temperature and severe overloads from distorting the commutator. POWERSTAT Variable Transformers deliver continuously adjustable voltage from AC lines; feature rugged construction, precious metal-plated commutators, excellent regulation, high efficiency and conservative ratings. They introduce no waveform distortion. Manual and motorized single and ganged assemblies are offered in ratings from .13 to 244 kVA. For complete technical data request current POWERSTAT catalog.

DIGITAL MOTOR DRIVES

Motor-driven units in Series 116B-216B, 117B-217B, 126-226, 136B-236B and 146-246 are available with digital motor drive which permits full range output voltage to be controlled at any speed, 5 to 200 secs. **To Order:** Add prefix **DM** to type number and **$562.00** to the motor driven price. For digital motor control **65455-001**, add **$28.20** to price.



SINGLE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output Volts	Output Max. Amps	Output Max. kVA	Net Each Manual	Net Each Motor* Driven
•10C	120	60■	0-132	2.25♯	0.30	$ 22.00	.....
*21	120	50/60	0-140	5	0.63	37.00	$ 275.00
*116BU	120	50/60	0-140	10	1.4	48.00	285.00
*116B‡	120	50/60	0-140	10	1.4	71.00	309.00
117BT	120	60	0-120	12	1.4	70.00	308.00
*126U	120	50/60	0-140	15	2.1	93.00	404.00
*126	120	50/60	0-140	15	2.1	104.00	415.00
*3PN126	120	50/60	0-140	15	2.1	139.00	450.00
*136B	120	50/60	0-140	22	3.1	148.00	459.00
*3PN136B	120	50/60	0-140	22	3.1	201.00	512.00
*146	120	50/60	0-140	30	4.2	242.00	553.00
*1156D	120	50/60	0-140	50	7.0	332.00	643.00
136B-3‡	120	50/60	0-140	66	9.2	572.00	883.00
1156D-2P	120	50/60	0-140	100	14.0	722.00	1033.00
1156D-3P	120	50/60	0-140	150	21.0	1265.00	1576.00
1156D-4P	120	50/60	0-140	200	28.0	1761.00	2072.00
1156D-6P	120	50/60	0-140	300	42.0	2561.00	2872.00
*12	240	50/60	0-264	0.5	0.13	31.00	.....
10C-2	240	60■	0-264	2.25♯	0.59	74.00	.....
*22	240	50/60	0-280	2.5	0.70	51.00	289.00
*216BU	240†	50/60	0-280	3.5	0.98	61.00	299.00
*216B‡	240†	50/60	0-280	3.5	0.98	82.00	320.00
21-2	240	50/60	0-280	5	1.3	118.00	356.00
217BT	240	60	0-240	5	1.2	80.00	318.00
*226U	240†	50/60	0-280	7.5	2.1	93.00	404.00
*226	240†	50/60	0-280	7.5	2.1	107.00	418.00
3PN226	240†	50/60	0-280	7.5	2.1	143.00	454.00
116BU-2	240	50/60	0-280	10	2.8	140.00	378.00
116BT-2	240	50/60	0-280	10	2.8	176.00	414.00
*236B	240†	50/60	0-280	10	2.8	148.00	459.00
*3PN236B	240†	50/60	0-280	10	2.8	201.00	512.00
117BT-2	240	60	0-240	12	2.9	191.00	429.00
*246	240†	50/60	0-280	15	4.2	242.00	553.00
*126U-2	240	50/60	0-280	15	4.2	218.00	529.00
126-2	240	50/60	0-280	15	4.2	260.00	571.00
*136B-2^	240†	50/60	0-280	22	6.2	369.00	680.00
*1256D	240†	50/60	0-280	28	7.8	332.00	643.00
146-2♦	240	50/60	0-280	30	8.4	574.00	885.00
1156D-2S	240	50/60	0-280	50	14.0	673.00	984.00
1256D-2P	240†	50/60	0-280	56	15.7	700.00	1011.00
1256D-3P	240†	50/60	0-280	84	23.5	1242.00	1553.00
1156D-4PS	240	50/60	0-280	100	28.0	1725.00	2036.00
1256D-4P	240†	50/60	0-280	112	31.4	1761.00	2072.00
1156D-6PS	240	50/60	0-280	150	42.0	2520.00	2831.00
1256D-6P	240†	50/60	0-280	168	47.0	2561.00	2872.00
12-2	480	50/60	0-528	0.5	0.26	93.00	.....
22-2	480	50/60	0-560	2.5	1.4	152.00	390.00
216BT-2	480†	50/60	0-560	3.5	2.0	207.00	445.00
217BT-2	480	60	0-480	5	2.4	211.00	449.00
226-2	480†	50/60	0-560	7.5	4.2	265.00	576.00
236B-2^	480†	50/60	0-560	10	5.6	361.00	672.00
246-2^	480†	50/60	0-560	15	8.4	574.00	885.00
1256D-2S	480†	50/60	0-560	28	15.7	655.00	966.00
1256D-4PS	480†	50/60	0-560	56	31.4	1664.00	1975.00
1256D-6PS	480†	50/60	0-560	84	47.0	2520.00	2831.00

THREE PHASE

Superior Number‡	Line Volts	Frequency Hz	Output Volts	Output Max. Amps	Output Max. kVA	Net Each Manual	Net Each Motor* Driven
10C-2	120	60■	0-132	2.25♯	0.51	$ 74.00	.....
21-2	120	50/60	0-140	5	1.1	118.00	$ 356.00
116BU-2	120	50/60	0-140	10	2.4	140.00	378.00
116BT-2	120	50/60	0-140	10	2.4	176.00	414.00
117BT-2	120	60	0-120	12	2.5	191.00	429.00
126U-2	120	50/60	0-140	15	3.6	218.00	529.00
126-2	120	50/60	0-140	15	3.6	260.00	571.00
136B-2^	120	50/60	0-140	22	5.3	369.00	680.00
146-2♦	120	50/60	0-140	30	7.3	574.00	885.00
1156D-2D	120	50/60	0-140	50	12.1	685.00	996.00
1156D-4D	120	50/60	0-140	100	24.2	1683.00	1994.00
1156D-6D	120	50/60	0-140	150	36.4	2520.00	2831.00
12-2	240	50/60	0-264	0.5	0.23	93.00	.....
10C-3	240	60■	0-240	2.25♯	0.94	115.00	.....
22-2	240	50/60	0-280	2.5	1.2	152.00	390.00
216BU-2	240†	50/60	0-280	3.5	1.7	161.00	399.00
216BT-2	240†	50/60	0-280	3.5	1.7	207.00	445.00
21-3	240	60■	0-280	5	2.2	186.00	424.00
217BT-2	240	60	0-240	5	2.1	211.00	449.00
226-2	240†	50/60	0-280	7.5	3.6	265.00	576.00
116BT-3	240	60■	0-280	10	4.8	253.00	491.00
236B-2^	240†	50/60	0-280	10	4.8	361.00	672.00
117BT-3	240	60	0-240	12	5.0	267.00	505.00
126-3	240	60■	0-280	15	7.3	400.00	711.00
136B-3‡	240	60■	0-280	22	10.7	572.00	883.00
1256D-2D	240†	50/60	0-280	28	13.6	672.00	983.00
146-3‡	240	60■	0-280	30	14.5	856.00	1167.00
1156D-3Y	240	60■	0-280	50	24.2	1148.00	1459.00
1256D-4D	240†	50/60	0-280	56	27.2	1683.00	1994.00
1256D-6D	240†	50/60	0-280	84	40.7	2520.00	2831.00
1156D-6Y	240	60■	0-280	100	48.5	2479.00	2790.00
12-3	480	60■	0-528	0.5	0.46	143.00	.....
22-3	480	60■	0-560	2.5	2.4	237.00	475.00
216BT-3	480†	60■	0-560	3.5	3.4	282.00	520.00
217BT-3	480	60	0-480	5	4.2	302.00	540.00
226-3	480†	60■	0-560	7.5	7.3	406.00	717.00
236B-3‡	480†	60■	0-560	10	9.7	532.00	843.00
246-3‡	480†	60■	0-560	15	14.5	857.00	1168.00
1256D-3Y	480†	60■	0-560	28	27.2	1164.00	1475.00
1256D-6Y	480†	60■	0-560	56	54.3	2479.00	2790.00

EXPLANATION OF FOOTNOTES

‡Letters in Part Numbers Indicate as Follows:
3PN—NEMA plug and receptacle.
Suffix letters and numbers (2, 2S, 4P, 6P, etc.), indicate ganged units. Numeral shows number of units in assembly.
U—Supplied without protective screening, terminal enclosure, input cord, output receptacle, fuse or switch.
*Add type number prefix from table below to Superior Powerstat No. for full-range travel motor speed desired; e.g., type **5M**21 is 5-sec No. 21 Powerstat, **15MC**126 is 15-sec No. 126 Powerstat, etc. Four-gang or larger types not available in 5-sec speed.

Superior Powerstat Series	Prefix for Full-Range Travel Motor Speed 5 Sec	15 Sec	30 Sec	60 Sec
21-22 116B-216B 117B-217B 146-246	5M	15M	30M	60M
1156D-1256D	5MB	15MB	30MB	60MB
126-226	5MC	15MC	30MC	60MC
136B-236B	5MD	15MD	30MD	60MD

†Also has terminals for operating at ½ this input voltage. ‡For parallel connection, order T5579B choke at **$122.60** extra. §Also available as 3PN type. ♯Metal panel mounted rating. See published derating for brackets and nonmetallic panels. ^For parallel connection, order T5000B choke at **$63.90** extra. ■If the maximum output voltage is limited to the input voltage, the frequency range is 50–60 Hz. ♦For parallel connection, order T6053 choke at **$87.30** extra. ‡For parallel connection, order T6065 choke at **$153.20** extra.

•AVAILABLE OFF-THE-SHELF FROM STOCK.

Superior Electric — POWERSTAT VARIABLE TRANSFORMERS

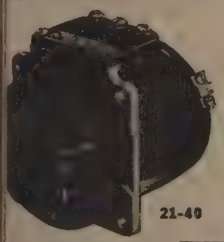

116B

METERED KNOB POWERSTAT® VARIABLE TRANSFORMERS

Stationary, direct-reading voltmeter on knob has accuracy of ±3% FS. Voltmeter does not turn with knob; insensitive to stray magnetic fields. Saves panel space, wiring and installation costs. Series 21-22 thru 146-246 back-of-panel mounted types may be combined with metered knob assemblies. Existing models can be retrofitted also.

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Amps‡	Output kVA‡	Price Each
116B*	120	50/60	0–140	10	1.4	$208.00
117BT*	120	60	0–120	12	1.4	213.00
126*	120	50/60	0–140	15	2.1	248.00
136B*	120	50/60	0–140	22	3.1	294.00
146	120	50/60	0–140	30	4.2	399.00
216B*	240†	50/60	0–280	3.5	0.98	221.00
217BT*	240	60	0–240	5	1.2	222.00
226*	240†	50/60	0–280	7.5	2.1	259.00
236B*	240†	50/60	0–280	10	2.8	290.00
246	240†	50/60	0–280	15	4.2	399.00

lso available with cord-plugs shown in standard type chart. as terminals for operating at half input voltage. ‡Max.


21-40

40-VOLT POWERSTAT VARIABLE TRANSFORMERS

Meet the high current, low voltage requirements of low voltage power supplies and a wide range of transistor circuit applications. All types are open construction. Individual units in ganged assemblies have the same electrical ratings as single units of the corresponding type number.

SINGLE PHASE

Superior Type	Line Volts	Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
0B-40	40	60	0–40	6	.24	★	.....
0B-40-2†	40	60	0–40	6	.24	★	.....
0B-40-3†	40	60	0–40	6	.24	★	.....
1-40	40	60	0–40	15	.6	★	.....
1-40-2†	40	60	0–40	15	.6	★	.....
1-40-3†	40	60	0–40	15	.6	★	.....
16BU-40	40	60	0–40	25	1.0	★	.....
16BU-40-2†	40	60	0–40	25	1.0	★	.....
16BU-40-3†	40	60	0–40	25	1.0	★	.....

Prices available on request.
dd type number prefix for full range travel motor speed desired: **A** for 5 sec.; **15M** for 15 sec.; **30M** for 30 sec.; **60M** for 60 sec. r example, **15M**21-40). †Ratings given apply separately to each it in assembly.

DOUBLE WOUND POWERSTAT VARIABLE TRANSFORMERS WITH ISOLATED SECONDARY



POWERSTAT type LW136B is a double wound assembly with an isolated secondary. When ordering (*) motor driven assemblies prefix type number with desired speed of either 5, 15, 30 or 60 seconds for full range travel and letters MD (for example, 5MDLW136B-3). Any of the ratings given below are possible simply by using the proper terminal connections. These are only a few of the many ratings that can be obtained. Data sheet on request.

Superior Type	Line Volts	Output Volts	Output Max. Amps	Output Max. kVA	Price Each Manual	Price Each Motor* Driven
W136B	120	0–30	25	.75	$226.00	$537.00
or	120	15–0–15	35	.52		
50/60 Hz	240	0–30	25	.75		
single	240	15–0–15	35	.52		
phase	120	105–135	35	4.7		
	107–137	120	35	4.2		
	240	225–255	35	8.9		
	226–256	240	35	8.4		
W136B-3	240	210–270	35	16.4	816.00	1127.00
or 60 Hz	214–260	240	35	14.6		
three-	480	450–510	35	31.0		
phase	452–512	480	35	29.1		

ENCLOSED L SERIES POWERSTAT VARIABLE TRANSFORMERS


L116B

Enclosed laboratory models are equipped with grounded NEMA cord/plug assembly, on-off switch, pilot light, fuse and output receptacle. Integral handle; recessed controls. Slot, provided at the rear, accepts wall hanger bracket. Meets OSHA requirements.

Superior Type	Input Freq., Hz	Output Volts	Output Amps	Output kVA	Price Each
*L10B	60	0–132	2.25	0.30	$64.00
*L21	50/60	0–140	4.5	0.63	82.00
*L116B	50/60	0–140	10	1.4	97.00

*Ratings for constant current load; for constant impedance load, ratings are 13 amps, 1.6 kVA.



COMPACT Q TYPE POWERSTATS

Ideally suited for applications where space is a critical factor. Compact, square frame units available only in manually operated open construction assemblies. Removable shafts may be extended from either end of unit.

SINGLE PHASE

Superior Type*	Line Volts	Input Freq. Hz	Output Volts	Output Max. Amps	Output Max. kVA	Price Each
*Q116U	120	50/60	0–120 0–140	9 9	1.1 1.3	$ 48.00
*Q117U	120	60	0–120	10	1.2	57.00
*Q216U	240 120	50/60	0–280 0–260	3.5 3.5	0.98 0.42	61.00
*Q217U	240	60	0–240	5	1.2	64.00
Q116U-2	240	50/60	0–240 0–280	9 9	2.2 2.5	144.00
Q117U-2	240	60	0–240	10	2.4	164.00
Q216U-2	480 240	50/60	0–560 0–560	3.5 3.5	2.0 0.85	167.00
Q217U-2	480	60	0–480	5	2.4	176.00

THREE PHASE

Q116U-2	120	50/60	0–120 0–140	9 9	1.9 2.2	$144.00
Q117U-2	120	60	0–120	10	2.1	164.00
Q216U-2	240 120	50/60	0–280 0–280	3.5 3.5	1.7 0.74	167.00
Q217U-2	240	60	0–240	5	2.1	176.00
Q116U-3	240	50/60 60	0–240 0–280	9 9	3.8 4.4	202.00
Q117U-3	240	60	0–240	10	4.2	213.00
Q216U-3	480 240	60 60	0–560 0–560	3.5 3.5	3.4 1.5	229.00
Q217U-3	480	60	0–480	5	4.2	254.00

*Number suffix indicates ganged assembly; number is no. of units.

EN TYPE POWERSTATS



Wide application and mounting flexibility. Housed in lightweight, functional aluminum enclosures that permit easy installation, wiring and servicing. Single units and ganged assemblies available for 120, 240 and 480 volt, single and three phase service with loads up to 6.0 kVA. Data sheet on request. Single units below size: 5¾" w. x 6" d. x 6 13/16" h. Shipping Weight, 15 lbs.

Superior Type†	Input Volts	Input Freq.	Output Volts	Output Amps	Output kVA	Price Each
EN116B	120	50/60	0–140	8	1.1	$109.00
EN117B	120	60	0–120	10*	1.7*	113.00
EN216B	240	50/60	0–280	3	0.84	125.00
EN217B	240	60	0–240	4.4*	1.4*	127.00

*Current is maximum for constant-current load; kVA is maximum for constant-impedance load. †For single phase service.

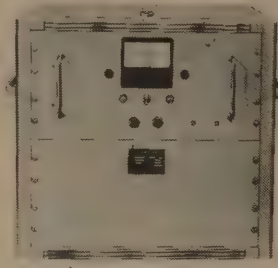
● AVAILABLE OFF-THE-SHELF FROM STOCK

Superior Electric Voltage Regulators

STABILINE® AUTOMATIC VOLTAGE REGULATORS



Type EMT4106C



Type EMT4115B



Types IES9103B and IES9203B

ELECTRO-MECHANICAL TRANSISTORIZED SERIES

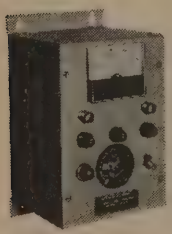
Type EMT: Utilize transistorized control circuits, motor-driven Powerstat® variable transformers and buck-boost transformers to regulate line voltage. Widely used in industrial applications or where constant output voltage is required with zero waveform distortion. EMT Series types are offered in ratings from 2.3 to 118 kVA. For heavier load requirements, models of the EMS Series (not listed) are offered in ratings from 25 to 275 kVA. **Type EMK:** Stabiline automatic voltage regulators offer an extremely fast correction rate. Rugged construction assures dependable performance with little or no maintenance. Efficiency, approx. 99%; rated accuracy, ±0.75% for all variations of line voltage or load current within the stated range of the unit.

INSTANTANEOUS ELECTRONIC SOLID STATE SERIES

Highly accurate, fast-correcting units feature solid state circuitry which permits smaller and lighter units than comparable tube-type regulators. Other benefits include low distortion, high efficiency (up to 95%) and wide operating frequency range. Speed of correction can be considered instantaneous for most applications. Will maintain output voltage within 100 mV rms band for any combination of rated input voltage and/or load from 1.0 to 0 power factor lagging. With the exception of types IES9110, IES9115, IES9210 and IES9215, all models can be rack mounted by removing the cabinet feet.

Superior Number	Nom'l Output Voltage	AC Hz	Input Voltage Range*	Output Voltage Range	Max. Output Amps	Rated Output kVA	Correction Rate: Sec./Volt†	Approx. Wt., Pounds Net	Approx. Wt., Pounds Shpg.	Superior Number	Net Each
•EMT4102B‡■	115	50/60	95–135	110–120	20	2.3	.075	54	63	EMT4102B‡■	$1104.00
•EMT4106C■	115	50/60	95–135	110–120	57	6.6	.075	87	95	EMT4106C■	1315.00
•EMT4112B§■	115	50/60	105–125	110–120	114	13.0	.15	90	98	EMT4112B§■	1353.00
■EMT4115B	115	50/60	95–135	110–120	144	16.6	.125	258	280	EMT4115B	1714.00
EMT4104B♯*	120	60	108–137	110–120	35	4.2	.10	47	52	EMT4104B♯*	1523.00
•EMT4207B‡	230	50/60	195–255	220–240	36	8.3	.083	153	175	EMT4207B‡	1551.00
■EMT4228C*	230	50/60	205–250	220–240	130	29.9	.111	253	275	EMT4228C*	2019.00
EMT4407B*	460	50/60	400–520	440–480	20	9.2	.041	165	187	EMT4407B*	2103.00
EMT4418B*	460	50/60	400–520	440–480	45	20.7	.041	263	285	EMT4418B*	2349.00
EMT6210YB I♦*	230	50/60	195–255	220–240	33	13.1	.083	372	453	EMT6210YB I♦*	3039.00
EMT6215YB I♦*	230	50/60	195–255	220–240	48	19.1	.083	374	455	EMT6215YB I♦*	3151.00
•EMT6220YB I♦	230	50/60	195–255	220–240	63	25.1	.083	378	457	EMT6220YB I♦	3175.00
•EMT6245YB I♦	230	50/60	195–255	220–240	145	57.8	.25	835	969	EMT6245YB I♦	4245.00
EMT6270DB I♦*	230	50/60	195–255	220–240	188	74.9	.25	795	939	EMT6270DB I♦*	5877.00
EMT6412YB♦*	460	50/60	400–520	440–480	18	14.3	.041	350	430	EMT6412YB♦*	3334.00
EMT6417YB♦*	460	50/60	400–520	440–480	24	19.1	.041	370	450	EMT6417YB♦*	3579.00
•EMT6425YB♦	460	50/60	400–520	440–480	35	27.9	.041	390	470	EMT6425YB♦	3195.00
EMT6450YB♦*	460	50/60	400–520	440–480	75	59.8	.125	771	905	EMT6450YB♦*	5145.00
EMT6475YB♦	460	50/60	400–520	440–480	100	75	.125	820	954	EMT6475YB♦	5324.00
•EMT64100YB♦	460	50/60	420–500	440–480	148	118	.188	841	975	EMT64100YB♦	5450.00
EMK4105■I*	115	50/60	105–125	110–120	46	5.3	.04	69	79	EMK4105■I*	1555.00
IES91005B	115	50/60	95–135	110–120	4.4	0.5	.....	53	57	IES91005B	992.00
•IES9101B	115	50/60	95–135	110–120	8.7	1.0	.....	68	72	IES9101B	1058.00
•IES9103B	115	50/60	95–135	110–120	26.1	3.0	.....	131	136	IES9103B	1630.00
•IES9106B	115	50/60	95–135	110–120	52.2	6.0	.....	167	181	IES9106B	1876.00
IES9110C*	115	50/60	95–135	110–120	87.0	10.0	.....	360	380	IES9110C*	3407.00
•IES9115C	115	50/60	95–135	110–120	130	15.0	.....	360	382	IES9115C	3592.00
IES9203B*	230	50/60	195–255	220–240	13	3.0	.....	120	126	IES9203B*	1986.00
•IES9206B	230	50/60	195–255	220–240	26.1	6.0	.....	139	153	IES9206B	2075.00
IES9210C*	230	50/60	195–255	220–240	43.5	10.0	.....	330	350	IES9210C*	3703.00
IES9215C	230	50/60	195–255	220–240	65	15.0	.....	350	372	IES9215C	4009.00

•At nominal output voltage; input voltage range shifts proportionally with output voltage setting. †Motor drive travel time in seconds divided by input range in volts. ‡Can also be operated with an input range of 105–125 volts, output rating of 40 amps, 4.6 kVA and correction rate of .15 sec/V. §Can also be operated with an input range of 95–135 volts, output rating of 57 amps, 6.6 kVA and correction rate of .075 sec/V. ♯60 Hz only. ‡Can also be operated with a nominal 208 volt output, input range of 177–230 volts and output range of 200–216 volts. *Can also be operated with a nominal 208 volt output, input range of 186–226 volts and output range of 200–216 volts. ■Also available as rack models (add suffix **R**); prices on request. ♦Three-phase types; all others single-phase. ‡Can also be operated on an input range of 95–135 volts with rating of 23 amps, 2.6 kVA and correction of .02 sec/V. *Units subject to setup charges.



SUPERIOR ELECTRIC VOLTAGE CONTROL EQUIPMENT

STABILINE FULL-RANGE REGULATOR CONTROLLER

Designed for use with motor-driven Powerstat® variable transformers to maintain constant output voltage. Adjustable to any value within the full range of the Powerstat used. Regulates output from any motor-driven Powerstat rated 120 or 240 volts, 50/60 Hz, single-phase. Dependent on Powerstat used, unit may be used for 3-phase applications maintaining one line-to-neutral or one line-to-line voltage. Can also be used in 480 volts, 50/60 Hz, 3-phase, but an auxiliary step-down transformer is required for sensing line-to-line voltage. Voltage output remains within 4-volt band when used with 240 V types. Voltmeter on front panel monitors Powerstat output in 0–300 volt range. Other controls include voltage adjust, on-off switch, pilot indicating when unit is energized, motor damping control and three fuses. Size: 11″ h. x 6″ w. x 7″ d., overall. Mtg. centers 4½″ x 10¼″ maximum.

•Superior Type FR501B Regulator Controller—Net Each..... **$494.00**

●AVAILABLE OFF-THE-SHELF FROM STOCK

Superior Electric Voltage Regulators

STABILINE® AUTOMATIC VOLTAGE CONTROLS

All STABILINE voltage controls listed are recognized under the Components Program of Underwriters Laboratories, Inc.

CR SERIES COMPUTER REGULATORS

Its maintain properly conditioned voltage to computers and other voltage-critical uipment. Simple plug and cord connection to voltage source; two grounded receptacles connecting equipment. Provide output of 120 volts, rms, ±3%, 60 Hz, over an input ge of 95 to 130 volts, rms. Also provide 60 dB common-mode noise rejection to help vent computer errors, loss of information and other noise-related problems.

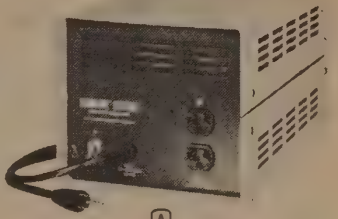
SVR SERIES AUTOMATIC VOLTAGE REGULATORS

ghly efficient, extremely fast, solid-state regulators designed for a variety of voltage trol applications. They are very light in weight when compared with many other its of similar kVA ratings. Provide accuracy of ±3.5% for all line, load and power tor variations. Have virtually zero waveform distortion. Other series in the complete e include EMT and EMS (Electromechanical Solid-State), EMK (Electromechanical) l IES (Instantaneous Electronic Solid-State) with ratings to 300 kVA.

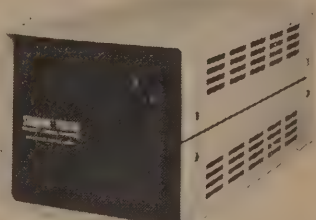
SVRS SERIES TRANSIENT SUPPRESSORS/VOLTAGE REGULATORS

addition to correcting for high or low voltage from power sources, SVRS Series units enuate transverse-mode (line-to-line) noise and transients. Transient voltage attention of 40 dB from 5 to 50 kHz. Provide the all-around protection needed by computers, siness machines, word processors, micro-processor-based equipment and other voltage sing devices to reduce or eliminate disruptions, data errors, loss of information and uipment failure. For 50/60 Hz duty

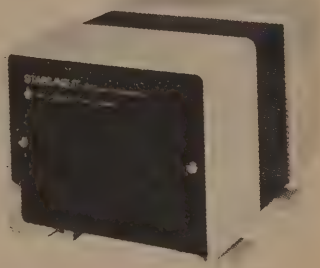
Superior Number	† Fig.	Nominal Output Volts	Input Voltage Range	Max. Output Amps	Rated Output kVA	Weight Lbs.	Net Each
CR COMPUTER REGULATORS							
CR7105C	A	120	95–130	4.17	0.5	39	$358.00
CR7110C	A	120	95–130	8.33	1.0	60	532.00
CR7120C	A	120	95–130	16.67	2.0	110	907.00
SVR AUTOMATIC VOLTAGE REGULATORS							
SVR8101C	B	115	100–135	8.7	1.0	28	$487.00
SVR8102C	B	115	100–135	17.4	2.0	40	688.00
SVR8104C	B	115	100–135	34.8	4.0	45	912.00
SVR8201C	B	220	192–255	4.5	1.0	28	521.00
SVR8202C	B	220	192–255	9.1	2.0	40	725.00
SVR8204C	B	220	192–255	18.2	4.0	49	968.00
SVRS TRANSIENT SUPPRESSORS/VOLTAGE REGULATORS							
SVRS88101C	B	115	100–135	8.7	1.0	36	$ 677.00
SVRS88102C	B	115	100–135	17.4	2.0	50	966.00
SVRS88104C	B	115	100–135	34.8	4.0	52	1306.00
SVRS88201C	B	220	192–255	4.5	1.0	41	767.00
SVRS88202C	B	220	192–255	9.1	2.0	48	1051.00
SVRS88204C	B	220	192–255	18.3	4.0	56	1373.00



A



B



C

TVS SERIES TRANSIENT VOLTAGE SUPPRESSORS

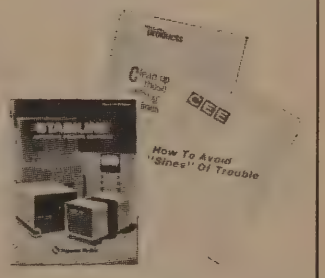
ttenuate transverse-mode (line-to-line) noise or transients. Attenuate consistently gardless of position on sine wave or direction the transient is applied. Do not rely on bsolute magnitude before attenuation occurs. Response time is virtually instantaneous nd transient reduction is 40 dB (100 to 1) from 5 to 50 kHz. For 50/60 Hz duty.

IT SERIES ISOLATION TRANSFORMERS

Multishielded isolation transformers exhibiting low capacitance between primary and econdary windings. Effective for isolating sensitive equipment and attenuating common-node noise generated by power consuming devices. Interwinding capacitance is 0.005 pF nd common-noise attenuation is 126 dB. For 50/60 Hz duty.

Superior Number	† Fig.	Line Volts	Output Volts	Output Amps	Weight Lbs.	Net Each
TVS TRANSIENT VOLTAGE SUPPRESSORS						
TVS151C	B	120	120	15	11	$218.00
TVS151PC	B	120	120	15	11	244.00
TVS301C	B	120	120	30	13	336.00
TVS601C	B	120	120	60	24	604.00
TVS152C	B	240	240	15	11	295.00
TVS302C	B	240	240	30	13	440.00
TVS602C	B	240	240	60	24	678.00
IT ISOLATION TRANSFORMERS						
IT105	C	120	120	4.17	23	$254.00
	C	240	240	2.08		
IT110	C	120	120	8.35	40	401.00
	C	240	240	4.17		
IT125	C	120	120	20.85	61	466.00
	C	240	240	10.43		
IT150	C	120	120	41.70	100	533.00
	C	240	240	20.85		

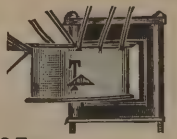
†Figures are approximate; call for details.



For full information about the complete line of STABILINE Automatic Voltage Controls in ratings from ½ to 300 kVA, contact your nearest sales office.

Power Transformers and Chokes


Type EE


S Type


X


BS


BC


A

TOROIDAL TRANSISTOR POWER SUPPLY TRANSFORMERS

Epoxy molded, DC to DC. Exceed MIL-T-27B Grade 5, Class R specs. Case type EE except open types case S.

Triad No.	Input Volts	Output V*	Output mA	Size, Inches Dia.	Size, Inches Height	Wt., Lbs.	Net Each
TY-68S†	12	250	65	§	1⅝	.2	$15.93
TY-69S†	12	300	100	‡	1⅞	.5	16.97
TY-71S†	12	375	200	‡	2	.65	16.78
TY-74S†	12	600	200	‡	2	1.07	24.07
TY-77S†	12	670	180	‡	2	1.07	28.19
TY-78	12.6	250	100	1¾	1⅛	.35	37.84
TY-79	12.6	300	200	1¾	1	.35	41.53
TY-81	12.6	375	200	2	1	.50	39.97
TY-82	12.6	450	150	2	1	.50	41.34
TY-83	12.6	500	250	2¾	1⅛	.85	50.22
TY-84	12.6	600	200	2¾	1⅛	1.00	49.69
TY-85	12.6	600	350	2¾	1⅛	2.00	56.29
TY-86	12.6	425	350	2¾	1⅛	1.00	51.29
TY-88	28	250	80	1⅝	⅞	.25	32.00
TY-89	28	300	100	1¾	1⅛	.35	35.67
TY-90	28	325	200	1¾	1	.35	43.86
TY-91	28	375	200	2	1	.50	39.28
TY-92	28	450	200	2	1	.50	42.67
TY-93	28	500	250	2¾	1⅛	.85	56.29
TY-99	6	300	100	1¾	1	.35	39.22
TY-100	6	325	150	2	1	50	38.10

*F.W. bridge. †Open frame type. ‡4⅛" w. x 3" d. §1¾" w. x 1¹½₂" d. ‡2⅜" w. x 1⅞" d. *2⅜" w. x 2⅛" d.

DC TO AC TRANSISTOR TRANSFORMERS

Open and vertical shielded types. Secondary, 110–115–125 volts.

Triad No.	DC Pri.	Secondary W	Secondary Hz	Case	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each
TY-46S	28	60	400	L	1⅞ x 2¼ x 2	½	$29.14
TY-46Z	12	60	400	L	1⅞ x 2¼ x 2	½	33.00
TY-75A	12	115	60	A	3⅛ x 3½ x 3½	5	41.79
TY-76A	12	60	60	A	3⅛ x 2¹½ x 2⅝	3	27.28

STEP-DOWN AUTOFORMERS—50-60 Hz

Triad No.	VA Output	Input Volts	Output Volts	Size, Inches H. x W. x D.	Net Each
N-1X	50	230	115	2¹⅛ x 3¹¹⁄₁₆x 2	$ 9.90
N-3M§	85	230	115	3¹¹⁄₁₆x 2¹¹⁄₁₆x 2⅞	21.64
N-4M§	150	230	115	3¹¹⁄₁₆x 2¹¹⁄₁₆x 3⅝	24.31
N-5M§	250	230	115	3⅞ x 3½ x 4¼	34.66
N-7M§	600	230	115	4⅝ x 3¹¹⁄₁₆x 5	60.50
N-9M§	1250	230	115	5¹¹⁄₁₆ x 4½ x 6¼	139.48
N-11M§	2000	230	115	5¹¹⁄₁₆ x 4½ x 8	161.41
N-34X	150	0/95/105/115/125/135	115	2¹⁵⁄₃₂x 4 x 2¼	14.98
N-33MG*	150	65/75/90/100/115/130/145	115	5⅝ x 3¹⁵⁄₁₆x 5½	71.81
N-36MG*	350	65/75/90/100/115/130/145	115	5⅝ x 3¹⁵⁄₁₆x 6¼	104.14
N-37MG*	500	65/75/90/100/115/130/145	115	5⅝ x 3¹⁵⁄₁₆x 7	132.55

§Also available with 3-wire cord, plug and socket (MG). *Has 3-wire cord, plug, switch, socket, and meter.

STEP-UP AUTOFORMERS—50-60 Hz

With 3-wire cord, plug, and socket.

N150MG	150	115	230	3¹⁹⁄₃₂ x 2³½ x 4	$ 88.53
N250MG	250	115	230	3⅞ x 3¼ x 4⁹⁄₁₆	89.88
N500MG	500	115	230	4⅝ x 3⅞ x 4¾	96.16
N1000MG	1000	115	230	5⅜ x 4½ x 5½	109.60

DC TO DC CONVERTER TRANSFORMERS

For use in blocking oscillator type power supplies where small size, high voltage and low power are required.

Triad No.	Typical Operation Input	Typical Operation Output	Net Each
TY-200X	3 VDC at 20 mA	1050 VDC at 25 μA	$19.10
TY-201TZ	4 VDC at 15 mA	500 VDC at 50 μA	13.33
TY-202X	4 VDC at 45 mA	550 VDC at 80 μA	14.84

VOLTAGE STABILIZERS

Input: 95–130 v. 60 Hz. Output: 118 v, 20% normal harmonic.

Triad No. K-100A—30 VA. Net Each..... $ 96.09
Triad No. K-101A—60 VA. Net Each..... 122.83
Triad No. K-102—120 VA. Net Each..... 181.72
Triad No. K-103A—250 VA. Net Each..... 217.81
Triad No. K-104A—500 VA. Net Each..... 273.76
Triad No. K-105A—750 VA. Net Each..... 335.93
Triad No. K-106A—1000 VA. Net Each..... 429.50

ADAPTER KITS

Triad No. KA-1—Used with K-100A and K-101A. Net Each..... $22.26
Triad No. KA-2—Used with K-102. Net Each..... 23.26
Triad No. KA-3—Used with K-103A, K-104A, K-105A and K-106A. Net Each..... 22.90

SPECIAL POWER TRANSFORMERS

Multiple filament industrial and TV replacement type. Static shield. Pri. 115 V, 50–60 Hz except R-67BC thru R-675A, 60 Hz.

Triad No.	Plate Supply AC Volts	Plate Supply mA DC	Filaments Volts-Amps	Size, Inches H. x W. x D.	Net Each
R-52BC	600 CT	270	5-3A., 6.3-5A., 6.3-5A., 6.3-1.2A.	3⅛x4½ x3¾	$46.64
R-67BC	600 CT	250	5-3A., 6.3-9A.	3⅛x4⅛ x3⅞	48.31
R-77BS	550 CT	350	5CT-6A.,6.3-8A., 6.3-6A., 6.3-2A.	3⅞x4½ x3¾	62.22
R-78BC	700 CT	200	5-3A., 6.3-6A., 6.3-4A., 6.3-2A.*	2⅝x4½ x3¾	29.38
R-675A	660 CT	270	5-6A., 6.3-9.35A., 6.3-1.2A.*	4⅜x3¹⁵⁄₁₆x4¼	54.67

*Damper wdg.

SMOOTHING FILTER REACTORS

Triad No.	Induct., Henries*	Current mADC	Resist., Ohms	Size, Inches H. x W. x D.	Net Each
C-85X	1.5	10	70	1¼ x2⅛ x1⅛	$ 5.45
C-30X	50	15	3500	1⅜ x2⅜ x1½	6.40
C-2X	2	15	70	1¾₆ x2⅛ x1¼	4.69
C-1X	15	20	1000	1¾₆ x2⅛ x1¼	5.34
C-84X	12	30	400	1⅜ x2⅜ x1⅝	6.45
C-3X	10	50	500	1⅝ x2¹³⁄₁₆x1½	6.00
C-4X	4	50	360	1⅜ x2⅜ x1⅝	5.05
C-6X	5	65	330	1⅝ x2¹³⁄₁₆x1½	5.95
C-5X	12	75	390	1¹⁵⁄₁₆x3⅝₆ x1¾	7.17
C-8X	7	75	240	1¹⁵⁄₁₆x3⅝₆ x1¾	6.60
C-7X	10	90	270	1¹⁵⁄₁₆x3⅝₆ x2	7.60
C-9X	4	90	100	1¹⁵⁄₁₆x3⅝₆ x1¾	6.90
C-11X	6	110	160	2³⁄₃₂ x3¹¹⁄₁₆x2	8.67
C-10X	9	125	250	2³⁄₃₂ x3¹¹⁄₁₆x2	8.78
C-12X	6	160	165	2³⁄₃₂ x3¹¹⁄₁₆x2½	9.00
C-12A	6	160	165	2²⁵⁄₃₂x2¹½x2½	14.17
C-13X	3	160	75	2³⁄₃₂ x3¹¹⁄₁₆x2½	8.83
C-14X	6	200	150	2¹⁹⁄₃₂x4 x2¼	10.72
C-14A	6	200	150	3¾₆ x2²½x2⅝	16.00
C-16A	10	200	150	3½ x2³½x3½	20.60
C-21X	1.5	225	65	1¹⁵⁄₁₆x3⅝₆ x1¾	7.05
C-15X	4	250	100	2¹⁹⁄₃₂x4 x2¼	10.40
C-15A	4	250	100	3¾₆ x2²½x2⅝	15.72
C-23X	1.2	260	45	1¹⁵⁄₁₆x3⅝₆ x2	8.33
C-24X	1	240	50	1⅝ x2¹³⁄₁₆x1½	5.64
C-27X	.7	290	30	1⅝ x2¹³⁄₁₆x1½	5.41
C-36X	.5	300	30	1⅜ x2³⁄₈ x1½	5.17
C-17X	1.5	300	40	2⁹⁄₃₂ x3¹¹⁄₁₆x2	8.12
C-18A	8	300	90	3⅞ x3⁹⁄₃₂ x3⅞	25.71
C-19A	10	300	105	4¼ x3¹⁹⁄₃₂x4⅛	33.12
C-34X	.6	350	35	1⅝ x2¹³⁄₁₆x1½	5.59
C-28X	1	350	35	1¹⁵⁄₁₆x3⅝₆ x2	7.19
C-29X	1.5	375	50	2⁹⁄₃₂ x3¹¹⁄₁₆x2	8.14
C-20A	5	400	60	4⅝ x3¹⁵⁄₁₆x4½	37.52
C-45AL	10	500	65	5⅝₆ x4½ x5⅛	69.74
C-40X	.32	600	10	1¹⁵⁄₁₆x3⅝₆ x2	7.10
C-47U	.3/.075†	1A/2A	3/0.75	3½ x2⅞ x3³⁄₁₆	21.40
C-56U	.035	2A	.75	2¼ x2⅝ x2	12.22
C-48U	.08/.02†	2.5A/5A	.61/.155	3¹³⁄₁₆x3⅝₆ x3³⁄₁₆	25.29
C-57U	.025	4A	.55	3⅛ x3⅜ x2¼	16.88
C-49U	.032/.008†	5A/10A	.19/.05	4¼ x3½ x3⅝	41.09
C-58U	.01	8A	.15	3⅛ x3⅜ x3⅛	24.97
C-59U	.01	12.5A	.10	3½ x4⅛ x3	29.26
C-80U	.024/.006†	20A/40A	.1/.025	5⅝ x4⅜ x5½	112.55
C-60U	.005	22.5A	.06	3¾ x4½ x4³⁄₁₆	52.14

*Inductance tolerance, −20%+50%. †Split winding.

Miniature Audio Transformers



X

MINIATURE AUDIO TRANSISTOR TRANSFORMERS

Triad No.	Impedance, Ohms Primary‡	Secondary	Output, Watts	Net Each
-19XT	10000 CT	16/8/4	.15	$12.03
-22XT	5000 CT	7500 CT	.15	10.47
-24X	50000 (.5 mA)	3000 CT	.2	13.60
-25X	100000 (.5 mA)	200 CT	.2	14.83
-26X	100000 (.5 mA)	3000 CT	.2	18.05
-27XT	500 CT (2 mA)	500 CT	.01	13.36
-32X	200 CT (2 mA)	2000 CT	.2	9.47
-33X	400 CT (5 mA)	16/8/4	.2	10.34
-34X	400 CT (5 mA)	2000 CT	.2	10.19
-35X*	500 CT (2 mA)	150 CT	.1	8.50
-36X	2000 (2 mA)	1500 CT	.2	9.00
-37X*	2000 CT (4 mA)	8000 CT	.2	10.66
-38X*	3000 CT (4 mA)	1000 CT	.2	12.41
-39X	4000 CT (4 mA)	16/8/4	.2	13.29
-40X	5000 (1 mA)	200 CT	.1	12.10
-44X	1000 (10 mA)	16/8/4	.2	11.41
-45X	500 CT (5 mA)	16/8/4	.2	11.79
-46X	100 (100 mA)	1000 CT	.25	10.69
-47X	2000 CT (10 mA)	16/8/4	.2	12.38
-49X	500 CT (12 mA)	5000 CT	.3	10.07
-51X*	2000 CT (10 mA)	200 CT	.05	11.72
-52X	20000 CT (1 mA)	2000 CT	.1	14.07
-54X	15000 (1.5 mA)	200 CT	.1	11.07
-55X	2000 CT (2 mA)	500 CT	.2	10.26
-56X	10000 (1 mA)	2000 CT	.05	11.98
-57X	250 CT (10 mA)	16/8/4	.2	10.50
-58X	125 CT (15 mA)	8/4	.2	9.22
-59X	5000 CT (1 mA)	50000 CT	.2	16.59
-60X	200000	1000	.1	13.38
-62X	10000 (2 mA)	4	.1	9.81
-150X	500 CT	500 CT	.3	10.41
-151XT	5000 CT	10,000 CT	.15	12.24

lso available in XT mounting for printed circuit cards. ‡mA
ings are DC.

OUTPUT AND DRIVER TRANSISTOR TRANSFORMERS

riad No.	Impedance, Ohms Primary*	Secondary	Output, Watts	Net Each
-18X	500 CT (50 mA)	200 CT	.5	$ 8.78
-20Z	100 CT (500 mA bal)	16/8/4	10	10.60
-29X	24 CT (500 mA bal)	8/4	8	12.26
-31X	200 CT (50 mA bal)	8/4	2	9.00
-48X	100 CT (40 mA)	16/8/4	.5	10.81
-30X	100 CT (100 mA bal)	8/4	2	8.90
-53X	200 CT (10 mA)	400 CT	.6	9.47
-61X	100 (100 mA)	100 CT	.5	7.12
-63X	48 CT (275 mA bal)	16/8	5	12.00
-64X	32 CT (575 mA bal)	16/8/4	10	11.38
-65Z	32 CT (575 mA bal)	6K/4K/3K	10	10.88
-67A	6 CT (5 A DC)	16/8/4	40	25.59
-152X	20 CT (500 mA)	8	10	8.19

A ratings are DC.

ANSISTOR DRIVER TRANSFORMERS—SPLIT SECONDARY

e, 1 1⁵⁄₁₆″ h. x 3⅛″ w. x 1¾″ d.

Triad No.	Output, Watts	DC Resistance Pri.	Ea. Sec.	Turns Ratio	Net Each
-158X	3–5	3	3.6	1.5:1:1	$13.10
-159X	3–5	11	3.6	3:1:1	12.69
-160X	3–5	45	3.6	6:1:1	15.10

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PLUG-IN PC AUDIO TRANSFORMERS

Output 100 mW. Size, ⅝″ x 1 3⁄16″ x 1 9⁄32″ except TY-146P, 1 watt output, size 1⅛″ x 1⅜″ x 1⅛″.

Triad No.	Impedance, Ohms Primary	Secondary	Pri. DC Unbal., mA	Net Each
TY-141P	10000 CT	10000 CT	4	$ 7.38
TY-142P	10000 CT	2000 CT	4	7.12
TY-143P	10000 CT	1500 CT	4	6.83
TY-144P	15000 CT	15000 CT	4	7.97
TY-145P	600 CT	600 CT	15	7.38
TY-146P	600CT/150†	600CT/150†	.....	10.97
TY-147P	150 CT	600 CT	15	7.86

†Split winding.

TELEPHONE COUPLING TRANSFORMERS

Transformers specifically designed and manufactured to telephone company requirements for voice/data use over leased private lines or through the dial-up switched telephone network. Used for impedance matching, isolation, line balance, bridging, hybrid and holding-coil applications. All units in plug-in printed circuit construction. **Frequency Response:** 300–3500 Hz, ±0.5 dB. **Longitudinal Balance:** 45 dB min. **Return Loss:** 26 dB min. **Distortion:** 0.5% max. **Impedance Matching:** ±10%. **Power Level:** −45 dBm to +7 dBm.

Triad No.	Application	Impedance, Ohms Primary	Secondary	Net Each
TY-300P	Hybrid†	600	600/600‡	$10.72
TY-301P	Coupling	600	900	8.79
TY-302P	Hybrid†	600	600/600	14.00
TY-303P	Bridging	4000	600	8.79
TY-304P	Coupling	600CT	600CT	8.79
TY-350P	Holding Coil	2.0 Hy @ 60 mA 1.3 Hy @ 100 mA 180 ohms res.		8.79

†Two required for hybrid operation.
‡Split winding; one wide band, one narrow band.

SUBMINIATURE AUDIO TRANSFORMERS

Open frame construction. Type XT, 1⁄4″ x 11⁄32″ x 1⁄8″. All others, 1⁄4″ x 1⁄2″ x 1⁄8″. Power output, 1 mW.

Triad No.	Impedance, Ohms Primary‡	Secondary	Frequency Resp., Hz	Net Each
TZ-1	600/250/50	60000	70–20000	$14.71
TZ-5	30/12/4	50000	70–20000	18.71
TZ-7	30/12/4	1000	40–20000	10.60
TZ-13	15000 (1 mA)	135000 CT	70–15000	13.16
TZ-15	20000 (.5 mA)	1200/600/100	70–15000	12.60
TZ-17XT	10000 CT	2000 CT	70–15000	12.69
TZ-24XT	25000 CT (.5 mA)	500 CT	100–15000	17.66
TZ-25	10000 (1 mA)	200	70–20000	10.31
TZ-26	1000 (5 mA)	50	100–10000	10.31
TZ-28	600	50	40–60000	8.83
TZ-32XT†	1500 CT (2.5 mA)	600 CT/150*	70–20000	10.76
TZ-103XT	1 or 4 H	Coupling Reactor		4.26

*Split wdg. †Power output, 10 mW. ‡mA ratings are DC.

MINIATURE "TRIJETS" AUDIOS

Open frame construction, 1 7⁄32″ w. x ¾″ d. x ⅝″ h. except T-32X, T-34X, T-41X, 1 9⁄32″ w. x 1 1⁄16″ d. x ⅝″ h.

Triad No.	Impedance, Ohms Primary‡	Secondary	Frequency Resp., Hz	Net Each
T-1X"♯	600/250/50	50000	60–15000	$11.52
T-2X▪	600/250/50	250000	100–15000	11.76
T-3X	600/250/50	60000 CT	60–15000	12.31
T-5X▪	30/12/4	50000	50–15000	11.09
T-12X	15000	60000 CT	60–15000†	11.71
T-13X	15000*	95000 CT	350–7000†	11.24
T-20X♯	15000	600/250/50	60–15000†	10.22
T-22X	15000*	600/250/50	350–7000†	9.45
T-23X♯	20000 CT	600/250/50	60–15000†	11.45
T-24X	10000 CT‡	2000 CT	50–20000†	9.17
T-25X	12000 CT‡	600 CT/150‡	50–16000†	9.57
T-26X	50000 CT▲	600 CT/150‡	100–15000♦	9.48
T-31X"♯	600/250/50	600/250/50	50–15000†	9.48
T-32X	1500 CT‡	600 CT/150‡	50–20000♦	7.88
T-33X▪	5000 CT	5000 CT	60–15000†	12.41
T-34X♯	500 CT‡	500 CT/125‡	50–20000♦	7.79
T-35X♯	600 CT (1 mA)	2000 CT/500‡	50–20000†	9.55
T-41X	1000 (10 mA)	200 CT	20–15000	9.95
T-101X	50 H at .75 mA audio choke			9.40
T-102X	6 or 4 H, 3 or 6 mA coupling reactor			5.83
T-300	Magnetic shield for encapsulated units			6.59

*Designed for 3 mA in primary except: ‡2 mA; ▲5 mA (low freq. results from DC in primary of all other units). Power output 1 mW except: †10 mW; ♦20 mW. ‡Split winding. ▪Static shield. ‡mA. ♯Also available encapsulated with plug-in terminal..

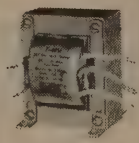
Power Transformers

POWER SUPPLY, CONTROL AND FILAMENT TRANSFORMERS

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
SINGLE SECONDARY PRIMARY 115 VOLTS—50–60 Hz.						
F-50X‡#	6.3/5	2	5000	1 15/16 x 3 5/16 x 2	1.2	$14.24
F-1X#	2.5 CT	3	1500	1 5/8 x 2 1/16 x 1 5/8	.68	7.79
F-72Z#	2.5 CT	5	7500	2 23/32 x 3 1/8 x 2 1/8	1.7	15.14
F-6X#	2.5 CT	6	2500	1 1/4 x 3 1/4 x 1 3/4	1	8.90
F-3X#	2.5 CT	10	3000	2 1/8 x 3 3/4 x 2 1/8	1.7	13.05
F-5U	2.5 CT	10	7500	3 1/16 x 2 1/2 x 2 7/16	2.2	16.55
F-7X	5 CT	3	1500	1 1/4 x 3 1/4 x 2	1.3	9.76
F-8X	5 CT	6	1500	2 9/32 x 3 3/4 x 2 1/8	1.7	12.31
F-12X	5 CT	8	2500	2 13/32 x 4 x 2 1/4	2 5	14.90
F-10U#	5 CT	14	10000	3 15/16 x 3 1/16 x 3 1/4	4.75	26.81
F-15U#	5 CT	15	3000	3 1/2 x 2 7/8 x 2 11/16	3.25	22.91
F-9U	5.2 CT	13	1500	3 7/16 x 2 13/16 x 3 1/4	4	24.34
F-11U	5.2 CT	24	1500	3 13/16 x 3 5/16 x 3 7/8	6.75	29.55
F-13X	6.3	.6	1500	1 5/8 x 2 3/8 x 1 5/8	.37	5.59
R-84K†	6.3	.6	3500	2 1/4 x 2 1/4 x 2 11/16	1.5	15.64
F-14X#	6.3 CT	1.2	2500	1 5/8 x 2 13/16 x 1 5/8	.7	6.64
F-14Z	6.3 CT	1.2	2500	1 15/16 x 2 3/8 x 1 5/8	.7	7.52
F-52X†	6.3	1.2	5000	1 15/16 x 3 5/16 x 1 3/4	1	10.72
F-51X#†	6.3/5	2	5000	1 1/4 x 3 1/4 x 2	1.25	11.90
F-53X	6.3	4	5000	2 13/32 x 4 x 2 1/4	2.1	12.64
F-43X#	6.3	4	1500	1 1/4 x 3 1/4 x 2	1.25	8.12
F-16X	6.3 CT	3	2500	1 1/4 x 3 1/4 x 2	1.3	9.83
F-18X	6.3 CT	6	1500	2 1/32 x 4 x 2 1/4	2.3	12.43
F-18A	6.3 CT	6	1500	3 3/16 x 2 21/32 x 2 5/8	2.5	16.21
F-69X	6.3 CT	8	1500	2 9/16 x 4 x 2 1/4	2.3	15.60
F-21A	6.3 CT	10	1500	3 1/32 x 2 31/32 x 3 1/8	3.8	24.97
F-20U*	6.3/6 CT	11	3000	3 1/2 x 2 7/8 x 3	4	25.21
F-17U#	6.3 CT	15	10000	4 1/4 x 3 1/2 x 3 3/4	7.5	34.86
F-22A	6.3 CT	20	2000	3 7/8 x 3 29/32 x 4 1/8	7	34.43
F-24U*	7.5/6.3 CT	8	3000	3 1/2 x 2 7/8 x 2 13/16	3.65	21.55
F-28U*	7.5/ 6.3 CT	25	3000	4 5/8 x 3 15/16 x 3 5/8	7.5	47.38
F-180X	10 CT	1	1500	1 15/16 x 3 5/16 x 1 3/4	.9	10.52
F-31X	10 CT	3	2000	2 9/32 x 3 3/4 x 2 5/8	1.7	11.57
F-95X	10 CT	4	1500	2 5/8 x 4 x 2 1/8	2.1	15.47
F-33U	10 CT	5	2000	3 x 2 1/2 x 2 5/8	3	18.28
F-96U	10 CT	6	1500	3 x 2 1/2 x 2 3/4	2.1	17.53
F-23U	10 CT	7	1500	3 1/2 x 2 7/8 x 2 15/16	3.9	22.41
F-97U	10 CT	8	1500	3 7/16 x 2 13/16 x 3	4.0	22.33
F-35U	10 CT	10	2000	4 1/2 x 4 1/2 x 3 1/4	9.1	30.53
F-113X	12	.15	1500	1 3/8 x 2 3/8 x 1 5/8	.4	6.26
F-216X#	12	.35	1500	1 3/4 x 2 3/4 x 1 3/4	.37	8.67
F-114X	12	.7	1500	1 5/8 x 2 11/16 x 1 5/8	.8	9.38
F-217X#	12	1.2	1500	2 x 3 1/4 x 1 3/4	1.0	10.38
F-218X#	12	2	1500	2 x 3 1/4 x 1 7/8	1.13	9.24
F-219X#	12	4	1500	2 9/16 x 4 x 2 1/4	2.3	13.59
F-220U#	12	6	1500	3 7/16 x 2 13/16 x 2 1/2	3.5	10.21
F-221U#	12	8	1500	3 13/16 x 3 1/4 x 2 5/8	4.0	21.19
F-29U*	12 CT/ 11 CT/ 10 CT	11	3000	4 5/8 x 3 1/2 x 3 3/8	6.5	33.24
F-70X	12.6 CT	1	1500	1 15/16 x 3 5/16 x 1 3/4	1.3	9.16
F-25X	12.6 CT	1.5	1500	1 1/4 x 3 1/4 x 2	1.3	7.95
F-44X#	12.6 CT	2	1500	1 15/16 x 3 5/16 x 2	1.25	8.84
F-26X#	12.6 CT	2.5	1500	2 1/4 x 3 11/16 x 2	1.55	9.19
F-224X#	12.6	3	1500	2 1/4 x 3 3/4 x 2 1/8	1.6	12.12
F-225X#	12.6	4	1500	2 5/8 x 4 x 2 1/16	2.3	13.59
F-181U	12.6 CT	4	1500	3 1/16 x 2 9/16 x 2 3/16	2.3	17.66
F-182U	12.6 CT	6	1500	3 3/8 x 2 15/16 x 2 7/16	3.8	21.17
F-183U	12.6 CT	8	1500	3 15/16 x 3 5/16 x 2 15/16	5	24.97
F-112X	14 CT	.25	1500	1 3/8 x 2 3/8 x 1 3/4	.4	7.36
F-250X	14 CT	1	1500	1 15/16 x 3 1/4 x 1 3/4	1.2	9.81
F-251X	14 CT	2	1500	2 1/4 x 3 11/16 x 1 11/16	1.5	10.72
F-252U	14 CT	4	1500	3 x 2 1/2 x 2 7/16	3	16.21
F-253U	14 CT	6	1500	3 1/8 x 2 13/16 x 2 7/8	4	19.09
F-254X	20 CT	1	1500	2 1/4 x 3 11/16 x 1 11/16	1.5	10.91
F-255X	20 CT	2	1500	2 1/4 x 4 x 2 1/4	2.5	21.26
F-256U	20 CT	4	1500	3 1/8 x 2 13/16 x 2 7/8	4	19.88
F-257U	20 CT	6	1500	3 3/4 x 3 1/8 x 3 1/8	5.7	24.34
F-258U	20 CT	8	1500	3 3/4 x 3 1/16 x 3 1/2	6.4	28.60
F-259U	20 CT	10	1500	4 1/8 x 3 7/16 x 3 1/2	7.4	32.76
F-115X	24 CT	.085	1500	1 5/16 x 2 1/16 x 1 3/8	.3	7.66
F-116X	24 CT	.2	1500	1 5/8 x 2 3/8 x 1 1/4	.45	8.45
F-117X	24 CT	.4	1500	1 5/8 x 2 11/16 x 1 5/8	.8	8.17
F-118X	24 CT	.7	1500	1 15/16 x 3 1/4 x 2	1.3	8.21
F-45X#	24 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	8.50
F-46X#	24	1	1500	1 15/16 x 3 1/4 x 2 1/8	1.4	8.50
F-192X	24 CT	2	1500	2 1/4 x 4 x 2 1/4	2.3	12.93
F-193U	24 CT	4	1500	3 1/16 x 3 1/4 x 2 11/16	4	20.91
F-260U	24 CT	6	1500	3 3/4 x 3 1/8 x 3 1/2	6.4	28.66
F-261U	24 CT	8	1500	4 1/2 x 3 7/16 x 3 1/2	7.4	32.93
F-401U	24 CT	10	1500	4 1/2 x 3 7/16 x 3 3/4	8.0	40.24
F-226U	24 CT	12	1500	4 5/16 x 3 3/4 x 4 1/8	10.4	43.79
F-57X	25.2 CT	1	1500	1 15/16 x 3 5/16 x 2	1.5	8.62
F-41X#	25.2 CT	2	1500	2 1/8 x 4 x 2 1/4	2.2	11.78
F-56X	25.2 CT	2.8	1500	2 21/32 x 4 x 2 1/4	2.5	14.57
F-119X	26.8 CT	.15	1500	1 3/8 x 2 3/8 x 1 1/2	.45	9.84
F-120X	26.8 CT	.5	1500	1 15/16 x 3 1/4 x 2	1.3	9.07
F-40X#	26.8 CT	1	1500	1 15/16 x 3 1/4 x 2	1.3	8.10
F-55X	26.8 CT	1.7	1500	2 1/32 x 4 x 2 1/4	2.3	12.22
F-121X	28 CT	0.085	1500	1 3/16 x 2 1/16 x 1 3/8	.25	9.24
F-122X	28 CT	0.175	1500	1 3/8 x 2 3/8 x 1 1/2	.35	7.38


A


X


U


Z

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
F-123X	28 CT	0.300	1500	1 5/8 x 2 13/16 x 1 5/8	.6	$11.03
F-124X	28 CT	0.800	1500	1 11/16 x 3 1/4 x 2	1.0	9.43
F-184X	28 CT	1	1500	2 5/16 x 3 11/16 x 2 1/4	1.4	11.33
F-185U	28 CT	2	1500	3 1/4 x 2 1/2 x 2 7/16	2.9	16.21
F-187U	28 CT	4	1500	3 1/2 x 2 7/8 x 3 1/16	5.3	22.26
F-262X	30 CT	1	1500	2 1/4 x 3 11/16 x 1 11/16	1.5	10.62
F-210X	30 CT	1.7	1500	2 13/32 x 4 x 2 1/4	1.55	12.76
F-263U	30 CT	2	1500	3 x 2 1/2 x 2 7/8	3.2	16.38
F-264U	30 CT	4	1500	3 3/4 x 3 1/8 x 3 1/8	5.7	24.17
F-265U	30 CT	6	1500	4 1/8 x 3 1/16 x 3 1/2	7.4	30.05
F-266U	30 CT	8	1500	4 1/2 x 3 3/4 x 4	10	41.71
F-227X#	35 CT	.065	1500	1 3/16 x 2 1/16 x 1 5/16	.3	9.48
F-188X	35 CT	.1	1500	1 5/8 x 2 13/16 x 1 1/4	.35	8.34
F-228X#	35 CT	.3	1500	1 5/8 x 2 13/16 x 1 5/8	.6	10.47
F-189X	35 CT	.5	1500	2 1/16 x 3 11/16 x 1 11/16	1	11.16
F-54X	35 CT	1.5	1500	2 1/16 x 4 x 2 1/4	2.2	13.14
F-190U	35 CT	2	1500	3 1/8 x 2 13/16 x 2 3/4	3.5	18.67
F-191U	35 CT	4	1500	3 15/16 x 3 1/16 x 3 3/16	6	25.16
F-267U	35 CT	6	1500	4 3/8 x 3 1/16 x 3 1/2	7.4	31.36
F-268U	35 CT	8	1500	4 1/2 x 3 3/4 x 4 1/4	11	43.10
F-269U	35 CT	10	1500	5 1/4 x 4 3/8 x 4 1/8	12	50.86
F-270X	40 CT	1	1500	2 1/16 x 4 x 2 1/4	2.6	12.76
F-271U	40 CT	2	1500	3 1/8 x 2 13/16 x 2 3/4	4	17.98
F-272U	40 CT	4	1500	3 3/4 x 3 1/8 x 3 1/8	6.4	25.62
F-273U	40 CT	6	1500	4 1/2 x 3 3/4 x 4	10	38.17
F-274U	40 CT	8	1500	4 1/2 x 3 3/4 x 4 1/4	10.5	49.34
F-275U	40 CT	10	1500	5 1/4 x 4 3/8 x 4 1/8	14.5	57.84
F-276X	50 CT	1	1500	2 1/16 x 4 x 2 1/4	2.4	12.43
F-277U	50 CT	2	1500	3 3/4 x 3 1/4 x 2 7/8	4.7	21.22
F-278U	50 CT	4	1500	4 1/8 x 3 1/16 x 3 1/2	7.4	29.79
F-58A	50 CT	5	1500	4 5/8 x 3 11/16 x 4 1/2	10	45.00
F-59X	60 CT	.4	1500	1 11/16 x 3 1/16 x 2	1.3	9.45
F-279U	60 CT	1	1500	3 x 2 1/2 x 2 5/8	3.4	16.21
F-280U	60 CT	2	1500	3 3/4 x 3 1/8 x 3 1/8	5.6	23.03
F-281U	60 CT	4	1500	4 1/2 x 3 3/4 x 4	10	37.34
F-282U	60 CT	6	1500	5 1/4 x 4 3/8 x 4 1/8	12.5	49.83
F-283U	70 CT	1	1500	3 5/8 x 2 13/16 x 2 5/8	4	17.69
F-284U	70 CT	2	1500	3 3/4 x 3 1/8 x 3 1/2	6	25.29
PRIMARY 115/230 VOLTS—50/60 Hz						
F-301X	2.5 CT	3	1500	1 5/8 x 2 13/16 x 1 5/8	.68	$ 9.76
F-306X	2.5 CT	6	2500	1 15/16 x 3 5/16 x 1 3/4	1	12.43
F-313X	6.3	.6	1500	1 3/8 x 2 3/8 x 1 3/8	.37	9.84
F-314X	6.3 CT	1.2	2500	1 5/8 x 2 13/16 x 1 5/8	.7	9.48
F-316X	6.3 CT	3	2500	1 15/16 x 3 5/16 x 2	1.3	11.62
F-318X	6.3 CT	6	1500	2 19/32 x 4 x 2 1/4	2.3	17.48
F-325X	12.6 CT	1.5	1500	1 15/16 x 3 5/16 x 2	1.3	10.38
F-344X	12.6 CT	2	1500	1 15/16 x 3 5/16 x 2	1.25	12.55
F-326X	12.6 CT	2.5	1500	2 9/32 x 3 11/16 x 2	1.55	12.78
F-3181U	12.6 CT	4	1500	3 1/16 x 2 9/16 x 2 3/16	2.3	20.53
F-3112X	14 CT	.25	1500	1 3/8 x 2 3/8 x 1 1/2	.3	11.98
F-3115X	24 CT	.085	1500	1 3/16 x 2 1/16 x 1 3/8	.3	12.12
F-3116X	24 CT	.2	1500	1 3/8 x 2 3/8 x 1 1/2	.45	9.28
F-3117X	24 CT	.4	1500	1 5/8 x 2 13/16 x 1 1/2	.75	10.52
F-3118X	24 CT	.7	1500	1 15/16 x 3 1/4 x 2	1.3	11.90
F-345X	24 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	10.02
F-346X	24	1	1500	1 15/16 x 3 1/4 x 2 1/8	1.4	11.16
F-357X	25.2 CT	1	1500	1 15/16 x 3 5/16 x 2	1.5	11.90
F-341X	25.2 CT	2	1500	2 19/32 x 4 x 2 1/4	2.2	16.41
F-340X	26.8 CT	1	1500	1 15/16 x 3 5/16 x 2	1.3	13.21
F-355X	26.8 CT	1.7	1500	2 19/32 x 4 x 2 1/4	2.3	14.09
F-3185U	28 CT	2	1500	3 1/16 x 2 1/2 x 2 7/16	2.9	21.76
F-354X	35 CT	1.5	1500	2 19/32 x 4 x 2 1/4	2.2	15.93
PRIMARY 440 VOLTS—50–60 Hz.						
F-246X#	24 CT	.5	1500	2 x 3 1/4 x 1 5/8	.8	$10.50
F-230X	24 CT	1	2000	2 1/4 x 3 11/16 x 1 11/16	1.7	10.83
F-231X	24 CT	2	2000	2 1/4 x 4 x 2 1/4	2.4	13.29
F-232U	24 CT	4	2000	3 1/4 x 3 1/4 x 2 7/8	4.6	20.60

*Tapped primary to produce lower voltages. †Static shield. #60 Hz. operation. ‡Filament line matching transformer; primary 6.3/5 volts.

Transformers

POWER SUPPLY, CONTROL AND FILAMENT TRANSFORMERS

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Case Size, Ins. H. x W. x D.	Wt. Lbs.	Net Each
MULTIPLE SECONDARY PRIMARY 115 VOLTS—50–60 Hz.						
34A	6.3 CT†	1.75	1500	3⅛ x 2⅛ x 3	3.3	$23.31
	6.3†	1.75				
	6.3†	1.75				
	6.3†	1.75				
32A	6.3 CT†	3	1500	3⅛ x 2⅛ x 2⅝	2.5	18.84
	6.3 CT†	3				
36A	6.3 CT†	3.5	1500	3⅞ x 3½ x 3½	5	32.22
	6.3†	3.5				
	6.3†	3.5				
	6.3†	3.5				
38A	6.3 CT†	5	1500	3⅞ x 3½ x 3¾	6	37.03
	6.3†	5				
	6.3	1				
	5 CT	2				
	5	4				
234Z#	12 CT	.1	1500	1⅜ x 2 x 1⅝	.3	15.97
235Z#	12 CT	.1	1500	2 x 2⅜ x 1⅞	.6	15.22
	12 CT	.25				
236Z#	12 CT	.25	1500	2⅝ x 2⅞ x 1⅝	.9	16.00
	12 CT	.5				
237Z#	12 CT	1	1500	2⅜ x 2⅛ x 2⅛	1.1	14.09
	12 CT	1				
238U#	12 CT	2	1500	2½ x 3 x 2⅜	2.2	18.48
	12 CT	2				
239U#	12 CT	4	1500	3⅛ x 3¾ x 2¾	4.25	29.55
	12 CT	4				
240U#	12 CT	6	1500	3½ x 4⅛ x 3⅛	5.4	41.26
	12 CT	6				
242A	12.6 CT†	2.5	1500	3⅛ x 2⅛ x 3⅛	3.7	19.78
	12.6†	2.5				
243A*#	12.6 CT†	5	2500	3⅞ x 3⅛ x 3¾	6	35.05
	12.6 CT†	5				
295Z	15	.1	1500	1¾ x 2 x 1½	.4	10.97
	12	.1				
	12 CT	.1				
296Z#	15	.15	1500	1⅝ x 2⅜ x 1½	.6	14.78
	12	.15				
	12 CT	.15				
297Z#	15	.25	1500	1⅝ x 2⅞ x 1⅝	.7	12.66
	12	.25				
	12 CT	.25				
298Z	15	.5	1500	2¼ x 3¾ x 1⅞	1.25	13.17
	12	.5				
	12 CT	.5				
299X	15	1.5	1500	2⅜ x 4 x 2¼	2.3	20.10
	12	1.5				
	12 CT	1.5				
241U#	18 CT	1	1500	2½ x 3 x 2½	2.2	21.38
	18 CT	1				
242U#	18 CT	2	1500	3⅛ x 3¾ x 2⅛	4	26.81
	18 CT	2				
243U#	18 CT	4	1500	3½ x 4⅛ x 3¼	5.2	35.64
	18 CT	4				
244U#	18 CT	8	1500	3¾ x 4½ x 4	8.3	44.74
	18 CT	8				
245U#	18 CT	12	1500	4⅜ x 5⅜ x 4¼	11.9	59.33
	18 CT	12				
194X	32 CT	.05	1500	1⅝ x 2⅞ x 1⅜	.45	9.81
	15.5 CT	.2				
195X	32 CT	.25	1500	2¼ x 3¾ x 1⅞	1.3	12.64
	15.5 CT	.75				
196U	32 CT	1	1500	3⅝ x 2¹⁵⁄₁₆ x 2⅝	4	19.95
	15 CT	2				
197U	32 CT	1	1500	3¾ x 3⅛ x 2¹⁵⁄₁₆	4.7	24.22
	15 CT	4				
198U	32 CT	1	1500	3¾ x 3⅛ x 3¹⁄₁₆	6.2	26.93
	15 CT	6				
199U	32 CT	1	1500	4⅛ x 3¹⁄₁₆ x 3½	7.4	35.50
	15 CT	‡10				
MULTIPLE SECONDARY PRIMARY 115/230 VOLTS—50/60 Hz						
3297Z	15	.25	1500	2⅜ x 2⅞ x 1⅝	.8	$15.19
	12	.25				
	12 CT	.25				
3298Z	15	.5	1500	2⅜ x 2¹³⁄₁₆ x 2	1.25	16.55
	12	.5				
	12 CT	.5				
MULTIPLE SECONDARY PRIMARY 230 VOLTS—50/60 Hz						
3295Z	15	.1	1500	1¾ x 2 x 1½	.41	$11.57
	12	.1				
	12 CT	.1				
395X	32 CT	.25	1500	2¼ x 3¾ x 1⅞	1.3	13.29
	15 CT	.75				
396U	32 CT	1	1500	3⅜ x 2¹³⁄₁₆ x 2⅝	4.0	19.95
	15 CT	2				
397U	32 CT	1	1500	3¾ x 3⅛ x 2¹⁵⁄₁₆	4.7	25.21
	15 CT	4				
MULTIPLE SECONDARY PRIMARY 277 VOLTS—60 Hz						
293X#	12	.5	2500	2 x 3¼ x 1⅜	.8	$12.93
	12	.5				
294X#	12	1	1500	2 x 3¼ x 2	1.2	11.03
	12	1				

rimary tapped for 105/115/125 volts. #60 Hz operation. †Windgs may be connected in series or in parallel.

FLAT PACK™ POWER TRANSFORMERS

Low clearance PC board designs. Primary 115/230 Volts—50/60 Hz.

Triad No.	Output Watts	Secondaries In Series	Secondaries In Parallel	Net Each
FP10-600	6	10 VCT @ .6 A	5 V @ 1.2 A	$ 9.53
FP12-475	6	12 VCT @ .475 A	6 V @ .95 A	9.53
FP16-375	6	16 VCT @ .375 A	8 V @ .75 A	9.57
FP20-300	6	20 VCT @ .3 A	10 V @ .6 A	9.57
FP24-250	6	24 VCT @ .25 A	12 V @ .5 A	9.57
FP30-200	6	30 VCT @ .2 A	15 V @ .4 A	9.57
FP101-200	12	10 VCT @ 1.2 A	5 V @ 2.4 A	12.45
FP12-950	12	12 VCT @ .95 A	6 V @ 1.9 A	12.45
FP16-750	12	16 VCT @ .75 A	8 V @ 1.5 A	12.45
FP20-600	12	20 VCT @ .6 A	10 V @ 1.2 A	12.45
FP24-500	12	24 VCT @ .5 A	12 V @ 1 A	12.45
FP30-400	12	30 VCT @ .4 A	15 V @ .8 A	12.45

6 VA units measure .875″ h. x 1.562″ w. x 1.875″ lg; 12 VA units measure 1.062″ h. x 2.000″ w. x 2.500″ lg.

LOW LEVEL AUDIO



X J Z

Single-hole mounting, permits rotation for minimum hum pickup. Alloy shielding for a 40–60 dB reduction in hum pickup (60–80 dB on A11J, A12J and A13J); flexible leads. Units have a wide frequency range. Input units electrostatically and magnetically shielded. Circuit diagrams permanently affixed to case.

Triad No.	Application	Primary Imped., Ohms	Net Each
A-9J†	Line or mike to grid	600/250/50	$28.03
A-10J†	Bal. line or mike to grid	600 CT/150*	27.83
A-11J†	Line or mike to grid	600/250/50	31.84
A-12J†	Bal. line or mike to grid	600 CT/150*	31.48
A-13J†	Line to line or transistor	600/300/200 CT/110/50*	33.98
A-14J	Bal. line or mike to grid	600 CT/150	33.24
A-15J	Bal. line or mike to grid	600 /250/50	32.67
A-40J	Plate to 1 or 2 grids	15000	27.83
A-41J	Tube to 1 or 2 grids	15000	32.26
A-52J	Line or transistor to line or transistor	500 CT/125*	21.59
A-55J	Plate to line	15000	27.21
A-56J	Line or transistor to VC	500 CT/125*	21.40
A-57J	Line or transistor to line	600/250/50	26.48
A-58J	P-P plates or transistors to line or transistors	10000 CT/2500*	24.26
A-61J	Line to 2 simultaneously loaded lines or transistors	600/150*	30.88
A-65J	Sgl or p-p plates to bal. line	15000 CT	27.79
A-66J	Plate to line	15000	29.59
A-67J†	Bal. line to bal. line	600 CT/150*	28.00
A-68J	Sgl or p-p plates to bal line	15000 CT	32.81
A-69J	P-P plates or bridging to line	25000 CT/6250*	25.69
A-78J	1 or 2 transistor to bal. line	2000 CT	31.28

Note: Frequency response of all units is 30–15,000 Hz except A-61J, 60–15,000 Hz; A-69J, 50–20,000 Hz; A-66J, A-68J, 40–15,000 Hz. *Split winding. †Static shield.

INPUT TRANSFORMERS, LINE OR MIKE TO GRID

Triad No.	Application	Pri. Ohms	Turns Ratio	Size, Inches H. x W. x D.	Net Each
A-1X	Line or mike to grid	100	1:31.4	1⅛ x2¹⁄₁₆ x1¼	$ 7.43
A-3X	Line or mike to grid	400*	1:22.1	1⅛ x2¹⁄₁₆ x1¼	7.88
A-4X	Line to single grid	†	1:12	1⅛ x2¹⁄₁₆ x1¼	12.10
A-6X	Intercom-spkr. VC to grid	8/4	1:79.6	1⅛ x2¹⁄₁₆ x1¼	7.88

*Center tapped. †500 CT/333/200 CT/125/67.5 CT/50.

DRIVER TRANSFORMERS

Triad No.	Impedance Primary	Impedance Secondary	Freq., Hz	Size, Inches H. x W. x D.	Net Each
A-81X	15000†	8500 CT	300–3K	1⅛ x 2¼ x 1½	$ 8.71
A-85X	7000‡	4000 CT	50–10K	1¹⁵⁄₁₆ x 3¼ x 1¾	10.31
TY-61X	100#	100 CT	50–10K	1⅝ x 2¹⁵⁄₁₆ x 1½	7.12

†15 mADC. ‡40 mADC. #100 mADC.

MATCHING TRANSFORMERS—25 OR 70.7 VOLT LINE

Triad No.	Matching Imped., Ohms Primary	Matching Imped., Ohms Sec.	Audio Watts	Size, Inches H. x W. x D.	Net Each
S-129Z	20.8 CT (25–70 V) 166 CT (70–25 V)	166 CT 20.8 CT	30	3¼ x3⅜x2¼	$13.67

MIL-T-27B and D Sealed Transformers



HS & HSM

HERMETICALLY SEALED IN MIL STANDARD CASES

All Series HS and HSM units are designed to meet MIL-T-27B specifications, and are cased in MIL-T-27B standard cases. Exceptions are those in GP cases, which may be classified as MIL-T-27B "YY" cases. All are "Climatite" treated, finished in gray enamel, and permanently marked with electrical and test data as specified in MIL-T-27B.

Static shield.

Triad No.	Impedance, Ohms Primary	Secondary	Freq. Resp. Hz	Case Key*	Net Each
LOW LEVEL AUDIO INPUT TRANSFORMERS					
HS-11	600*/250*/150/62.5	77000	20–20000	GP-4‡	112.57
HS-41	600*/250*/150/62.5	117600 CT	20–20000	GP-4∮	112.07
LOW LEVEL AUDIO INTERSTAGE TRANSFORMERS					
HS-27	20000CT*/5000	60000CT*/15000	20–20000	GP-4§	$82.16
HS-29	20000 CT*/5000	80000CT*/20000	20–20000	GP-4‡	104.33
HSM-31	20000 CT*/5000	20000 CT*/5000 CT	20–20000	FA	144.48
HS-32†	15000 (6 mA)	60000 CT*/15000	20–15000	GP-5§	79.66
LOW LEVEL OUTPUT, MIXING, MATCHING, BRIDGING					
HS-50	15000	600*/250*/150/62.5	20–20000	GP-4∮	$95.33
HS-60	15000	600*/250*/150/62.5	20–20000	GP-2§	64.50
HS-52	20000 CT*/5000	600*/250*/150/62.5	20–20000	GP-4§	85.79
HS-56V1	600*/250*/150/62.5	600*/250*/150/62.5	10–30000	GP-4∮	94.62
HS-661	Same as above		10–30000	GP-3§	86.78

*Balanced two windings. †Designed for DC in primary; all other types will show low frequency loss with unbalanced DC in winding. §45 dB shielding. ∮70 dB shielding. ‡90 dB shielding. 1Static shield.

COMBINED PLATE AND FILAMENT TRANSFORMERS
Primary 115 V—50-60 Hz

All types have static shield.

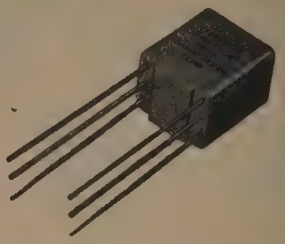
Triad No.	Plate Supply AC Volts	mA DC	Filaments, Volts at A	Case Key*	Net Each
HSM-241	700 CT 70 V bias tap	150	6.3 CT-6 A 6.3 V-2 A 5 V-3 A	LA	101.28
HSM-245	800/700 CT 70 V bias tap	200	6.3 CT-6 A 6.3 V-4 A 5-6 A	MA	120.90

FILAMENT TRANSFORMERS, 50-60 Hz

Triad No.	Primary Volts	Secondary Volts	Secondary A	rms Test Volts	Case Key*	Net Each
HSM-223	115	6.3	0.6	1500	AJ-2	$54.57
HSM-229	105–115–125	6.3 CT	8	2500	JB	54.79
HSM-230	105–115–125	24 CT	0.8	1500	FA	68.02
HSM-240	115/230	12.6 CT† 12.6†	1.5 1.5	2500	GA	97.22
HSM-238*	105–115–125	26 CT† 26†	2 2	2500	JA	69.41

*60 Hz operation. †Series or parallel connection.

RED SPEC TRANSISTOR TRANSFORMERS



Transformers designed and constructed to conform to the rigid requirements of MIL-T-27D. Solid epoxy molded case, permanent and legible circuit data on every unit, base mounting pad for easy inspection of all solder joints, high strength gold-plated nickel alloy leads, base dimensions of only 0.31" x 0.41", total height of only 0.465", weight of 1/10 ounce.

Triad No.	Impedance, Ohms Primary	Secondary	Power Level mW	Net Each
LOW LEVEL INPUT TRANSFORMERS				
SP-4	200,000 CT	1000 CT	10	$17.31
SP-5	50,000 CT	1000 CT	25	16.97
SP-7	200,000	1000	10	15.60
LOW LEVEL INTERSTAGE TRANSFORMERS				
SP-11	25,000/20,000	1000/800	40	$14.14
SP-13	25,000 CT/20,000 CT	1000CT/800 CT	40	16.33
SP-15	10,000 CT	1500 CT	50	16.48
LOW LEVEL DRIVER TRANSFORMERS				
SP-20	10,000 CT	1200 CT	50	$16.14
SP-21	10,000 CT	2000 CT	50	16.24
SP-22	10,000	2000 CT/500*	50	16.74
SP-29	10,000 CT	500 CT	50	15.71

Triad No.	Impedance, Ohms Primary	Secondary	Power Level mW	Net Each
OUTPUT TRANSFORMERS				
SP-32	605	50	50	$12.53
SP-33	1000	50	50	13.26
SP-34	600	3.2	50	11.76
SP-35	1200	3.2	50	12.22
SP-36	10,000	3.2	50	12.45
SP-42	150 CT	12	50	12.48
SP-47	1500 CT	12	50	13.64
SP-48	7500 CT	12	50	14.07
SP-49	300	600	50	13.95
SP-50	500 CT	600	50	13.88
SP-51	900 CT	600	50	14.05
SP-52	1500 CT	600	50	14.57
SP-65	8000 CT	3.2	50	13.45
OUTPUT-ISOLATION TRANSFORMERS				
SP-66	10,000 CT	10,000 CT	50	$16.33
SP-67	600 CT	600 CT	50	14.98
SP-68	10,000	10,000 CT/2500*	50	16.74
SP-69	600	600 CT/150*	50	15.02
SP-70	600	600	50	13.48

AUDIO CHOKES

Triad No.	Inductance, Hys.	Current mA	Resistance Ohms	Net Each
SP-106	6	2	1700	$11.41
SP-107	1.25	2	180	10.81
SP-108	3.5	2	1100	11.10
SP-117	0.9	2	110	11.07
SP-118	0.3	4	42	11.81
SP-128	0.1	5	15	10.38

*Split winding.

•CASE SIZES

Key	Size, Inches H.	W.	D.
AH-2	1¾	1⁵⁄₁₆	1⁵⁄₁₆
AJ-2	2⅜	1⅜	1⅜
EB	2⁷⁄₁₆	1¹³⁄₁₆	1⁵⁄₁₆
FA	3⅛	2¹⁄₁₆	2⁵⁄₁₆
GA	3¹³⁄₁₆	2⅜	2¼
GP-2	2¼	1¹⁄₁₆	1¼
GP-3	2⅜	1¼	1⁹⁄₁₆
GP-4	2½	1⁷⁄₁₆	1¾
GP-5	2¾	1⅝	2
JA	4⅞	3⅛	3⁹⁄₁₆
JB	3⅞	3⅛	3⁹⁄₁₆
LA	5⁹⁄₁₆	3¹¹⁄₁₆	4⅝
MA	6	4	4¹¹⁄₁₆

Audio Transformers



X



Z



A

OUTPUT TRANSFORMERS
25 Volt Line to Voice Coil

Triad No.	Impedance, Ohms Primary	Secondary	Output, W	Size, Inches H. x W. x D.	Net Each
-131X	1250/625/312*	8/4	2	1⅜ x2⅜ x1⅜	$ 9.00
-132X	1000/500/250/125*	16/8/4	5	1⅝ x2^{13}⁄$_{16}$x1⅝	11.17
-133Z	500/250/125/62.5*	16/8/4	10	2^{23}⁄$_{32}$x3⅛ x2	15.07

Isolation.

70.7 Volt Line to Voice Coil

-70Z*	16K/8K/4K/2K/1K	8/4	5	1^{11}⁄$_{16}$x2 x1⅜	$14.17
-71Z*	4K/2K/1K/500	16/8/4	10	1^{11}⁄$_{16}$x2⅜ x1⅜	14.95
-25Z*	4K/2K/1K/500	8/4	10	2⅛ x2⅜ x1¾	11.97
R45Z*	4K/2K/1K/500	16/8/4	10	2^{13}⁄$_{16}$x3⅛ x2⅜	17.28
-72Z*	2K/1K/500/250	16/8/4	20	2⅛ x2⅜ x1¾	15.71
-46A*	2K/1K/500/250	16/8/4	20	3⅜ x2^{11}⁄$_{16}$x3⅜	24.81
-78Z‡	4K/2K/1K/500	16/8/4	10	1^{11}⁄$_{16}$x2⅜ x1⅜	15.41
-79Z‡	2K/1K/500/250	16/8/4	20	2⅛ x2⅜ x1¾	16.31
-47Z‡	10K/5K/2.5K/1250/625	16/8/4	8	1^{11}⁄$_{16}$x2⅜ x1⅝	12.26
-73X‡	16K/8K/4K/2K/1K	16/8/4	5	1⅜ x2⅜ x1⅜	13.50
-85X	5K/2.5K/1.667K/1250/1K	16/8	5/4/3/2/1	1⅜ x2⅜ 1⅜	13.03
-86Z	10K/5K/2.5K/1250/625/312	16/8/4	16/8/4/2/1/.5	2¼ x3⅛ x2¼	15.40
-43Z	30M/20M/10M/5M	16/8/4	30	2⅝ x2⅞ x1¾	14.36
-44Z	50M/40M/25M/15M	16/8/4	50	2⅝ x2⅞ x2	11.95

Autoformer. ‡Isolation transformer. §Split winding.

Triad No.	Output Watts	Secondary Impedance	Dimensions—Inches H	W	D	Net Each
FOR 70.7-VOLT CONSTANT VOLTAGE LINE						
-7010	10/5/2.5	8 ohms	1⅝	2¾	1⅜	$8.38
-7005	5/2.5/1.25	8 ohms	1⅜	2⅜	1⅜	8.76
-7002	2/1/0.5	8 ohms	1⅜	2⅜	1⅜	8.76
-7001	1/0.63/0.32	8 ohms	1⅜	2⅛	1⅛	5.79
FOR 25-VOLT CONSTANT VOLTAGE LINE						
-2510	10/5/2.5	8 ohms	1⅝	2¾	1⅜	$8.62
-2505	5/2.5/1.25	8 ohms	1⅜	2⅜	1⅜	7.62
-2502	2/1/0.5	8 ohms	1⅜	2⅛	1⅜	5.74
-2501	1/0.63/0.32	8 ohms	1⅜	2⅛	1⅛	6.12

LINE OUTPUT TRANSFORMERS
Tube to Voice Coil and Line

Triad No.	Impedance, Ohms Primary	Secondary	Audio Watts	Size, Inches H. x W. x D.	Net Each
-28X	7500	500/16/8/4	5	1^{11}⁄$_{16}$x3¼ x1¾	$12.60
-29X	5000	500/16/8/4	5	1^{11}⁄$_{16}$x3¼ x1¾	11.05
-22A	5000 CT	500/16/8/4	15	2^{13}⁄$_{16}$x2^{11}⁄$_{16}$x2⅝	19.90
-24A	8000 CT	500/16/8/4	15	2^{13}⁄$_{16}$x2^{11}⁄$_{16}$x2⅝	18.36
-60A	6600 CT	500/250/16/8/4	35	3⅞ x3½ x3⅜	31.48

Line to Voice Coil

Triad No.	Impedance, Ohms Primary	Secondary	Audio Watts	Size, Inches H. x W. x D.	Net Each
-23X*	50	3.2-4	3	1¾ x2^{11}⁄$_{16}$ x1¾	$ 6.74
-26X*	500/50	3.2-4	4	1¾ x2^{11}⁄$_{16}$ x1¾	7.22
-65X	500	8/4	5	1⅞ x2⅜ x1⅝	7.22
-66X*	500	16/8/4	3	1⅜ x2⅜ x1⅜	9.10
-76Z	250/125/62.5/31	16/8/4	10	2^{13}⁄$_{16}$x3⅛ x2⅜	14.59
-83Z	500	15/8/6/4	25	2¾ x2⅞ x1⅝	12.40
-77U§	500 CT/125	32/16/8/4/2	30	3¼ x2^{13}⁄$_{16}$x4^{1}⁄$_{16}$	29.50

Autoformer. §Split winding.

HIGH FIDELITY OUTPUT TRANSFORMERS
Tube to Line or Voice Coil

Triad No.	Impedance, Ohms Primary	Secondary	Output, Watts	Case Size, Inches H. x W. x D.	Wt., Lbs.	Net Each
S-31A	8000 CT	16/8/4	15	3^{1}⁄$_{16}$x2^{11}⁄$_{16}$x3⅜	3.8	$25.93
S-142A	8000 CT†	16/8/4	15	3^{1}⁄$_{16}$x2^{11}⁄$_{16}$x3⅜	3.75	30.10
S-35A	5000 CT	16/8/4	20	3^{1}⁄$_{16}$x2^{11}⁄$_{16}$x3⅜	4.3	26.16
S-146A	6600 CT†	16/8/4	25	3½x2^{11}⁄$_{16}$x4¼	5.75	45.95
S-42A	4500 CT	16/8/4	50	4¼x3^{11}⁄$_{16}$x4⅝	8.25	48.43
SR-45Z*	4000/2000/1000/500	16/8/4	10	2^{13}⁄$_{16}$x3⅛x2½	1.75	17.28
S-46A*	2000/1000/500/250	16/8/4	20	3^{1}⁄$_{16}$x2^{11}⁄$_{16}$x3⅜	4	24.81

†Williamson type circuit may be used. Taps on primary for proper screen operation. *70 V line autoformer.

UNIVERSAL OUTPUT TRANSFORMERS
Single or Push-Pull Tubes to Voice Coil

Triad No.	Pri. Imped., Kohms	Pri. mADC P-P	Pri. mADC Single	Output, Watts	Wt., Lbs.	Net Each
S-51X*	4–14	70	35	5	.45	$11.17
S-52X*	4–24	50	25	4	.45	12.83
S-53X*	4–14	80	40	8	.6	12.36
S-54X†	1.5–5	.....	70	8	.6	12.26
S-55Z‡	4–14	100	.....	10	1	15.45
S-55X‡	4–14	100	.....	10	1	15.55
S-56Z†	1.5–6	.....	85	12	1.6	14.53
S-57Z‡	4–14	110	.....	15	1.6	15.36
S-61Z‡	4–12	125	.....	20	1.8	17.59
S-62X*	2–10	60	30	2	.21	11.74
S-63X*	1.5–7	100	50	6	.45	10.88

*Single or p-p plates. †Single plate. ‡P-p plates.

REPLACEMENT OUTPUT TRANSFORMERS
Single Tube to Standard Voice Coil (3–4 ohms)

Triad No.	Pri. Imped., Ohms	mA DC	Audio Watts	Size, Inches H. x W. x D.	Net Each
S-40X	14600	5.5	.25	1^{3}⁄$_{16}$x1⅝ x1	$6.02
S-20X	2000	50	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	5.71
S-12X	2500	50	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	5.84
S-12Z	2500	50	2–3	1^{7}⁄$_{16}$ x1^{13}⁄$_{16}$x1¼	5.71
S-16X	3000/5% tap	50	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	6.03
S-6X	5000	35	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	6.03
S-6Z	5000	35	2–3	1^{7}⁄$_{16}$ x1^{13}⁄$_{16}$x1¼	5.91
S-8X	8000	30	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	5.93
S-11X	10000	30	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	6.03
S-11Z	10000	30	2–3	1^{7}⁄$_{16}$ x1^{13}⁄$_{16}$x1¼	4.79
S-13X	25000	10	2–3	1^{3}⁄$_{16}$ x2^{1}⁄$_{16}$ x1¼	6.60
S-2X	2000	55	3–5	1⅝ x2⅜ x1⅝	6.00
S-1X	2500	60	3–5	1⅝ x2⅜ x1⅝	6.00
S-30X	3000	60	3–5	1⅝ x2⅜ x1⅝	6.07
S-41X	4000	50	3–5	1⅝ x2⅜ x1⅝	6.52
S-3X	5000	40	3–5	1⅝ x2⅜ x1⅝	6.38
S-7X	7500	30	3–5	1⅝ x2⅜ x1⅝	6.29
S-17X	10000	30	3–5	1⅝ x2⅜ x1⅝	6.48
S-18X	8000	45	4–6	1^{11}⁄$_{16}$x2^{15}⁄$_{16}$x1½	7.09
S-5X	5000	50	5–8	1^{15}⁄$_{16}$x3^{5}⁄$_{16}$ x1¾	7.64
S-5Z	5000	50	5–8	2^{5}⁄$_{16}$ x2⅞ x1¾	7.86
S-9X	7500	50	5–8	1^{15}⁄$_{16}$x3^{5}⁄$_{16}$ x1¾	7.64

LOW LEVEL OUTPUT TRANSFORMERS

Triad No.	Freq. Resp., Hz	Impedance, Ohms Pri.	Sec.	Size, Inches H. x W. x D.	Net Each
A-53X	70–7000	18000 CT	600/250/50	1⅝ x 2^{15}⁄$_{16}$x 1½	$12.36
S-58X	100–10000	600†/150*	600†/150*	1¾ x 2¼ x 1¾	10.76
S-81X	100–10000	600	600	1¾ x 2⅛ x 1¾	9.29
S-84X	50–20000	500/333/200/125/50	500/333/200/125/50	2 x 3¼ x 1⅝	17.17

*Split windings. †Center tapped.

REPLACEMENT PUSH-PULL OUTPUT TRANSFORMERS
Push-pull tubes to voice coil, 3–4 ohms.

Triad No.	Primary Impedance	Total mADC	Output, Watts	Size, Inches H. x W. x D.	Net Each
S-39X	12000 CT	60	3–4	1⅜ x 2⅜x1⅜	$ 6.78
S-64X	6000 CT	80	4–6	1¾ x2⅜ x1½	7.43
S-15X	10000 CT	70	7–10	1⅜ x2^{13}⁄$_{16}$x1½	7.28
S-19Z	10000 CT	100	10–14	2¼ x2⅞ x2	9.60
S-68Z	3400 CT/3000 CT/3800 CT	180	15–18	2^{13}⁄$_{16}$x3⅛ x2	10.88
S-69Z	5000 CT	120	15–18	2^{13}⁄$_{16}$x3⅛ x2	11.40

INTERSTAGE TRANSFORMERS, PLATE TO GRID

Triad No.	Frequency, Resp., Hz	Impedance, Ohms Pri.	Sec.	Turns Ratio	Size, Inches H. x W. x D.	Net Ea.
A-31X	100–10000	10000	90000 CT	1:3	1¾ x2⅜x1⅜	10.07
A-33X	70–10000	10000	90000 CT	1:3	1^{11}⁄$_{16}$x3^{1}⁄$_{16}$x1¼	10.50

Power Transformers



LOW-VOLTAGE, LOW-CURRENT, PLUG-IN PRINTED CIRCUIT POWER TRANSFORMERS

Primary 115 volts, 50/60 Hz.

Triad No.	Output Watts	Secondary Series Conn.	Secondary Parallel Conn.	Net Each
PRIMARY 115 VOLTS—50-60 Hz.				
F-131P	1½	8 V CT at .188 A	4 V at .376 A	$ 9.93
F-139P	1½	12.6 V CT at .12 A	6.3 V at .24 A	10.71
F-132P	1½	15 V CT at .10 A	7.5 V at .20 A	9.90
F-150P	1½	17 V CT at .085 A	8.5 V at .17 A	9.33
F-138P	1½	25.2 V CT at .06 A	12.6 V at .12 A	10.78
F-133P	1½	30 V CT at .05 A	15 V at .10 A	10.47
F-160P	1½	34 V CT at .045 A	17 V at .09 A	10.98
F-137P	1½	40 V CT at .038 A	20 V at .076 A	12.07
F-134P	1½	54 V CT at .028 A	27 V at .056 A	11.17
F-135P	1½	76 V CT at .02 A	38 V at .04 A	11.91
F-136P	1½	116 V CT at .013 A	58 V at .026 A	13.29
F-141XP	4½	8 V CT at .562 A	4 V at 1.124 A	7.81
F-149XP	4½	12.6 V CT at .35 A	6.3 V at .70 A	7.81
F-142XP	4½	15 V CT at .30 A	7.5 V at .60 A	7.81
F-161XP	4½	17 V CT at .264 A	8.5 V at .528 A	7.81
F-148XP	4½	25.2 V CT at .178 A	12.6 V at .356 A	7.93
F-143XP	4½	30 V CT at .15 A	15 V at .30 A	7.81
F-162XP	4½	34 V CT at .132 A	17 V at .264 A	7.81
F-147XP	4½	40 V CT at .112 A	20 V at .224 A	8.19
F-144XP	4½	54 V CT at .084 A	27 V at .168 A	7.81
F-145XP	4½	76 V CT at .060 A	38 V at .120 A	7.29
F-146XP	4½	116 V CT at .033 A	58 V at .066 A	7.81
F-151XP	7½	8 V CT at .940 A	4 V at 1.880 A	9.22
F-159XP	7½	12.6 V CT at .60 A	6.3 V at 1.2 A	9.22
F-152XP	7½	15 V CT at .50 A	7.5 V at 1.00 A	9.40
F-163XP	7½	17 V CT at .441 A	8.5 V at .882 A	9.28
F-158XP	7½	25.2 V CT at .30 A	12.6 V at .60 A	9.22
F-153XP	7½	30 V CT at .25 A	15 V at .50 A	9.22
F-164XP	7½	34 V CT at .22 A	17 V at .44 A	9.28
F-157XP	7½	40 V CT at .188 A	20 V at .376 A	9.22
F-154XP	7½	54 V CT at .14 A	27 V at .28 A	9.40
F-155XP	7½	76 V CT at .100 A	38 V at .200 A	9.40
F-156XP	7½	116 V CT at .065 A	58 V at .130 A	10.00
PRIMARY 115/230 VOLTS—50-60 Hz.				
F-3132P	1½	15 V CT at .1 A	7.5 V at .2 A	$ 6.55
F-333P	1½	30 V CT at .05 A	15 V at .10 A	8.28
F-348XP	4½	12.6 V CT at .350 A	6.3 V at .700 A	8.14
F-3142XP	4½	15 V CT at .3 A	7.5 V at .6 A	7.62
F-349XP	4½	16 V CT at .28 A	8 V at .56 A	9.40
F-350XP	4½	24 V CT at .180 A	12 V at .360 A	9.40
F-358XP	4½	20 V CT at .225 A	10 V at .450 A	9.40
F-3143XP	4½	30 V CT at .15 A	15 V at .3 A	7.62
F-363XP	7½	230 V CT at .020 A	115 V at .040 A	10.34
F-3152XP	7½	15 V CT at .5 A	7.5 V at 1.0 A	7.98
F-3153XP	7½	30 V CT at .25 A	15 V at .5 A	7.98
F-359XP	10	24 V CT at .45 A	12 V at .90 A	10.43
F-362XP	10	20 V CT at .500 A	10 V at 1.0 A	10.40
F-365XP	10	12.6 V CT at .800 A	6.3 V at 1.6 A	10.43
F-366XP	10	16 V CT at .640 A	8 V at 1.28 A	10.43

TRIPLE OUTPUT SECONDARIES FOR −15 VDC AND +5 VDC

Triad No.	Watts	Sec. No. 1	Sec. No. 2	Net Each
F-165P	1½	24 V CT at .025 A	9 V CT at .100 A	$11.36
F-167P	1½	32 V CT at .020 A	15 V CT at .060 A	11.71
F-168XP	4½	32 V CT at .050 A	15 V CT at .195 A	7.84
F-166XP	7½	24 V CT at .125 A	9 V CT at .500 A	9.57
F-169XP	7½	32 V CT at .100 A	15 V CT at .287 A	9.74

SCR TRIGGER—PHOTOFLASH TRANSFORMERS

Triad No.	Turns ratio	Inductance Primary	Inductance Leakage	Output Volts or Volt/μsec	Net Each
PL-10	1:30	2 μH	1 μH	6–8 kV	$ 5.48
PL-11	1:30	15 μH	1.5 μH	10–12 kV	5.52
PL-20	1:1	200 μH	8 μH	2000 V/μsec	6.50
PL-21	1:1:1	200 μH	8 μH	2000 V/μ	6.81
PL-30	1:1:1	7.5 μH	90 μH	130 V/μsec	13.02
PL-31	1:1	7.5 μH	90 μH	130 V/μsec	9.95
PL-32	2:1	7.5 μH	100 μH	130 V/μsec	10.38
PL-33	2:1:1	7.5 μH	100 μH	130 V/μsec	12.02
PL-34	5:1	7.5 μH	115 μH	130 V/μsec	11.17

UNIVERSAL RECTIFIER POWER

Triad No.	Primary 50/60 Hz	Secondary No. 1 VAC	Secondary ADC CT†	Secondary ADC Bridge	Net Each
F-200A	117 V	13/18 at .9 ADC*	.....	.....	$18.16
F-202U	117 V	11.0–29.5	2.0	1.25	19.95
F-203U	117 V	12.0–30.0	4.0	2.0	21.52
F-204U	117 V	11.5–29.0	8.0	4.0	33.53
F-205U	117 V	12.0–29.5	12.0	6.0	45.53
F-206U	117 V	12.1–29.2	15.0	8.0	72.47
F-207U	117 V	12.2–29.0	22.5	12.0	92.53

*Sec. No. 2, same. †Full wave.

CONTROL TRANSFORMERS

Multiple usage with relays, solenoids, electronic tubes, recording devices and similar applications. All use 115/230 VAC, 50/60 Hz and have lug type connections.

Triad No.	Secondary Parallel	Secondary Series CT	VA Rtg.	Size, Inches H.	Size, Inches Base	Net Each
F-105Z	6 V at 2 A	12 V at 1 A	12	2⅛	2⅛ x 1¾	$ 9.45
F-106Z	6 V at 4 A	12 V at 2 A	24	2¼	3⅛ x 2	12.43
F-107Z	12 V at 4 A	24 V at 2 A	48	3⅛	3⅝ x 2⅜	13.11
F-398U	12 V at 6 A	24 V at 3 A	72	3 13/32	2 13/16 x 2 13/16	23.01
F-108U	12 V at 8 A	24 V at 4 A	96	3½	2⅞ x 3	27.23
F-399U	12 V at 12 A	24 V at 6 A	144	3¾	3⅛ x 3½	29.31
F-109U	12 V at 16 A	24 V at 8 A	192	4⅛	3¾ x 3½	51.57
F-211Z	24 V at .5 A	48 V at .25 A	12	2 5/16	2 13/16 x 1½	14.39
F-212Z	24 V at 1 A	48 V at .5 A	24	2¾	3⅛ x 2¼	14.66
F-213Z	24 V at 2 A	48 V at 1 A	48	3⅛	3⅝ x 2⅜	14.55
F-214U	24 V at 4 A	48 V at 2 A	96	3 13/32	3 13/16 x 2 13/16	23.33
F-400U	24 V at 6 A	48 V at 3 A	144	3¾	3⅛ x 3½	30.91
F-215U	24 V at 8 A	48 V at 4 A	192	4 5/32	3¾ x 3 7/16	39.16

LOW VOLTAGE RECTIFIER TRANSFORMERS

All use 115 volt tapped primary. Used to supply transistor DC voltage, 15 half-wave or 30 in bridge circuit.

Triad No.	Secondary Volts	Secondary Amps	Test Volts	Size, Inches H. x W. x D.	Net Each
F-94X	10–20 CT–40 CT	.035	1500	1⅜ x 2⅜ x 1⅜	$ 7.69
F-90X	10–20 CT–40 CT	.1	1500	1⅝ x 2 13/16 x 1⅝	9.36
F-91X	10–20 CT–40 CT	.3	1500	2 5/32 x 3 1/16 x 2	12.07
F-93X	10–20 CT–40 CT	.75	1500	2 13/32 x 4 x 2¼	15.16
F-92A	10–20 CT–40 CT	1.0	1500	3 1/16 x 2 21/32 x 3	20.07
PRIMARY, 230 OR 277 V, 50/60 Hz					
F-394X	10–20 CT–40 CT	.035	1500	1⅜ x 2⅜ x 1⅜	$14.08
F-390X	10–20 CT–40 CT	.1	1500	1⅝ x 2 13/16 x 1⅝	12.76
F-391X	10–20 CT–40 CT	.3	1500	2 5/32 x 3 1/16 x 2	14.29
F-393X	10–20 CT–40 CT	.75	1500	2 13/32 x 4 x 2¼	18.28
F-392A	10–20 CT–40 CT	1.0	1500	3 1/16 x 2 21/32 x 3	25.50

UNIVERSAL RECTIFIER TRANSFORMERS (PRI. 50-60 Hz)

Triad No.	Pri. Volts	Secondary AC Volts	Secondary Amps rms	DC Volts Half Wave	DC Volts Full Wave	Case Size, Inches H. x W. x D.	Net Each
F-47U	115	17-18	3	6-7	13-14	3x2½x2¾	$17.21
F-347U	115/230	17-18	3	6-7	13-14	3x2½x2¾	18.72
F-48U	115	17-18	6	6-7	13-14	3 13/16x3 3/16x3 3/16	24.97
F-49U	115	36† 36†	3 3	13 13	26 26	4⅝x3 13/16x3¾	43.07
F-60U	115	6.5-13-19.5-26	3	9	18	3⅜x2 13/16x2⅝	18.67
F-360U	115/230	6.5-13-19.5-26	3	9	18	3⅜x2 13/16x2⅝	19.71
F-61U	115	24-27-30-33-36	3	13	26	3¾x3 1/16x3¼	28.74
F-361U	115/230	24-27-30-33-36	3	13	26	3¾x3 1/16x3¼	31.00
F-67U‡	110/120	24-27-30-33-36	8	13	26	4⅝x3 13/16x4 13/16	53.72
F-63U	115	8-9† 8-9†	2 2	....	6-7 6-7	3x2½x2½	18.55
F-64U	115	7-8-9	7	....	5-6-7	3⅜x2 13/16x2¾	22.25
F-364U	115/230	7-8-9	7	....	5-6-7	3⅜x2 13/16x2¾	22.86
F-62U‡	105/115/125	9† 9† 9† 9†	10 10 10 10	....	7 7 7 7	4⅝x3 13/16x5¼	51.26
F-68U‡	115	9 CT† 9† 9† 9†	3.5 3.5 3.5 3.5	....	7 7 7 7	3 13/16x3 13/16x3 5/16	30.25
F-65U	110/120	140-150-160	.75	60	115	3 13/16x3 13/16x3⅜	27.97
F-74U	117	28 CT† 28 CT†	2 2	....	....	3 13/16x3 13/16x3¼	25.53
F-75U	117	28 CT† 28 CT†	4 4	....	....	4 1/16x3 7/16x4⅜	41.22
F-79U‡	115	24-26-28-30	15	11.4	22.8	3 13/16x4 5/16x5½	78.81
F-80U‡	115*	12-13.5-15-16.5-18† 12-13.5-15-16.5-18†	20 20	....	13 13	5 5/16x4 7/16x5½	136.33
F-84-AC‡	230/115§	12 CT† 12 CT†	10 10	....	8.5 8.5	4 5/16x3 15/16x5⅛	69.95
F-85U	115*	5-7.5† 5-7.5†	20 20	....	8-12.5	4½x3¾x4½	65.43

*Tapped. †Windings in series or parallel. ‡60 Hz. §Split winding.

MULTI-PURPOSE TV AND STEREO

Triad No.	Secondary No. 1*	Secondary No. 2	Wt., Lbs.	Net Each
F-170SX	20 V CT at .200 ADC	6.3 V at .200 A	.40	$11.86
F-171SX	26 V CT at .200 ADC	6.3 V at .200 A	.50	12.31
F-172SX	24 V CT at .400 ADC	6.3 V at .300 A	.62	13.52
F-173SX	30 V CT at .400 ADC	6.3 V at .300 A	.62	13.62
F-174SX	30 V CT at .500 ADC	6.3 V at .500 A	1.06	11.78
F-175SX	44 V CT at .400 ADC	6.3 V at .500 A	1.25	12.12
F-176SX	40 V CT at .800 ADC	6.3 V at .500 A	1.68	13.76
F-177SX	50 V CT at .800 ADC	6.3 V at 1.000 A	2.31	15.60
F-178SX	60 V CT at .600 ADC	6.3 V at 1.000 A	2.31	15.16
F-179SX	60 V CT at 1.000 ADC	6.3 V at 1.000 A	2.31	17.09

*Secondary No. 1 current rating with FWCT rectifier.

Power Transformers



INSTRUMENT POWER SUPPLY TRANSFORMERS PRIMARY 115 VOLTS,* FOR PREAMPS, VTVM, ETC.

ad o.	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each
8A‡	800CT	30	5v.-2a., 6.3†-1.2a., 6.3†-1.2 a.	3⅛ x2³¹/₃₂x3⅛	3	$22.76
8B‡	250CT	22	6.3 v.-.8 a. 15.5/12.6 v.-.6 a.	1⅞ x2⅝ x2¼	1¾	18.83
C‡	135	15	6.3 v.-.9 a.	1¾ x1⅞ x1⅛	1	14.67
A‡	500CT	20	6.3 CT-2 a.	2¹³/₃₂x2¹¹/₃₂x2½	1¾	16.95
Z	500CT	25	6.3-1A.	2⅝x2⅞x2	1	11.07
Z	250CT	25	6.3v.-1a.	2⅝ x2⅞ x1¾	1	12.40
A‡	230CT	40	6.3 CT-1.5 a.	2¹³/₃₂x2¹¹/₃₂x2⅜	1¾	15.09
X‡	135	50	6.3 v.-1.5 a.	2¹/₃₂ x3¾ x2⅛	1½	12.86
X‡	115	15	6.3 v.-.6 a.	1½ x2¹³/₃₂x1⅝	1	8.53
Z‡	115	15	6.3v.-.6a.	1¹⁵/₁₆x2⅞ x1⅝	1	9.43
A‡	130	20	0/15/22.5/30-.6 a.	2¹³/₃₂x2¹¹/₃₂x2¾	2	16.40

60 Hz (R-54X, R-55Z, 60 Hz). †Series or parallel. ‡Static d.

FOR CATHODE RAY TUBES (115 V 50-60 Hz)

ad o.	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Case Size, Inches H. x W. x D.	Net Each
C	440-0-440-1250	125 5	5 v.-3 a., 2.5 v.†-1.75 a., 2.5 v.†-1.75a., 6.3 v.-.6 a.	3¼x4¼ x3½	$44.29
C	400-0-400-800	30 5	5 v.†-2 a., 5 v.†-2 a., 6.3 v.-.6 a., 6.3 CT-3 a., 6.3 v.-1 a.	2¾x3¾ x3¼	34.40
C	1600	3	6.3/5/2.5/0 v.-1 a. 6.3/5/2.5/0 v.-3 a.	2¾x3¼ x2¹/₃₂	34.45
K	.....	.....	6.3-.6 a.	2¾x2¼ x2¼	15.64

ndings may be connected in series or parallel.

FOR REGULATED POWER SUPPLIES

have static shield; 115 volts, 50–60 Hz.

ad o.	Plate Supply AC Volts	Plate Supply mA DC	Filament Windings Volts and Amps	Case Size, Inches H. x W. x D.	Net Each
A	880†	75	6.3 v.-.6 a., 6.3 v.-.9 a., 6.3 v.-.3 a., 6.3 v.-3 a.	3¹⁵/₁₆x3¹/₃₂x3⅜	$31.59
A	880-720†	200	6.3†-8 a., 6.3 v.-3 a., 6.3 v.-1 a., 5 v.-3 a.	4⅝x3¹⁵/₁₆x4⅝	55.29

nter tapped.

ISOLATION TRANSFORMERS—50-60 Hz

units have static shield.

riad No.	VA Output	Input Volts	Output Volts	Case Size, In. H. x W. x D.	Net Each
X	15	115	115	1¹⁵/₁₆ x 3⅝ x 2	$ 8.45
X	35	115	57.5-115‡	2³/₃₂ x 3¹/₁₆ x 2⅛	11.69
X	35	115	115	2³/₃₂ x 3¹/₁₆ x 2⅛	11.12
X	50	115/230‡	115	2³/₃₂ x 3¹/₁₆ x 2⅛	14.16
M#	85	115	115	3¹/₃₂ x 2³/₃₂ x 3⅝	25.69
M#	150	115	115	3⅞ x 3³/₃₂ x 4¼	35.17
A	150	115	115/230‡	3⅞ x 3³/₃₂ x 3⅝	29.64
A	150	115	57.5/115‡	3⅞ x 3³/₃₂ x 3⅞	31.12
A	150	115/230‡	115	3⅞ x 3³/₃₂ x 3⅞	29.22
M#^	250	115	115	4⅝ x 3¹⁵/₁₆ x 5	54.84
A	250	115/230‡	115	4⅝ x 3¹⁵/₁₆ x 4⅝	47.29
M#^	500	115	115	5¹⁵/₁₆ x 4½ x 6¼	146.60
M#^	1000	115	115	5¹⁵/₁₆ x 4½ x 8	153.33
M*	350	95–130§	115	4⅝ x 3¹⁵/₁₆ x 7¾	152.50
A†	50	220/440‡	115	3⅜ x 2²¹/₃₂ x 2½	17.40
A†	150	220/440‡	115	3⅞ x 3³/₃₂ x 3⅝	26.36
A†	300	220/440‡	115	4⅝ x 3¹⁵/₁₆ x 4⅝	45.64

ith cord, switch and meter for primary voltage control. †60 Hz. lit winding. §5-volt steps. #Also available with 3-wire cord, , socket. ^230 volt primary (MG).

UNIVERSAL ISOLATING AUTOFORMERS

50/60 Hz voltage control use. Four 115 V windings.

riad No.	Output Watts (VA) Isolation	Output Watts (VA) Auto-former	rms Test Voltage	Size, Inches H. x W. x D.	Net Each
4AC	500	1000	1500	5⅝x4½x5½	$ 88.38
2U	1000	2000	1500	6½x5½x5	180.98
0SC	2000	4000	2500	4¾x8½x13½	343.07

COMBINED PLATE AND FILAMENT TRANSFORMERS

Static Shield; Primary 115 Volts—50–60 Hz

Triad No.	Secondary AC Volts	Secondary mA DC	Rect. Fil. V	Rect. Fil. A	Other Filament Volts	Other Filament A	Wt. Lbs.	Net Each
R-22A*	380/320 CT	70	.....	.....	6.3 6.3 CT	.6 3	2¾	$21.41
R-4A	500 CT	40	.....	.....	6.3 CT	2	1¾	16.36
R-5A	600 CT	65	.....	.....	6.3 CT	2.7	2¾	19.29
R-6A	480 CT	50	5	2	6.3 CT	2	2¾	20.69
R-7A*	600 CT	50	5	2	6.3 CT	2	2¾	20.52
R-8A	500 CT	75	5	2	6.3 CT	2.5	3	23.14
R-9A	600 CT	75	5	2	6.3 CT	3	3½	24.93
R-10A	525 CT	90	5	2	6.3 CT	5	4½	25.24
R-11A	700 CT	90	5	3	6.3 CT	3.5	4¾	26.78
R-11B	700 CT	90	5	3	6.3 CT	3.5	4¾	26.40
R-12A	550 CT	110	5	2	6.3 CT	5	4½	26.67
R-14A	700 CT	125	5	3	6.3 CT	4.5	6	31.00
R-14B	700 CT	125	5	3	6.3 CT	4.5	6	29.72
R-16A	700 CT	160	5	3	6.3 CT	5	7	34.90
R-20A	700 CT	200	5	3	6.3 CT	8	9¼	41.38
R-20B	700 CT	200	5	3	6.3 CT	8	9¼	40.12
R-72A*	800 CT	140	5	3	6.3 CT	4	5¾	31.71
R-21B	800 CT	200	5	3	6.3 CT	6	9¼	43.48
R-24A*	800 CT	300	5	6	6.3 CT	6	14	49.66
R-25A	800 CT	500	5	6	6.3 CT	7	19	104.91
R-71A*	900 CT	250	5	4	6.3 6.3 CT 6.3	3 2 4	12	48.69

*60 Hz.

COMBINED PLATE AND FILAMENT

Primary 115 Volts—60 Hz

"Climatite" treated coils and cores for protection against moisture and for elimination of lamination chatter. Small in size, yet loss is at a minimum. Temperature rise design is 55° C. Copper foil static shields grounded to case and core.

Triad No.	Secondary AC Volts	Secondary mA DC	Rect. Fil. V	Rect. Fil. A	Other Filament Volts	Other Filament A	Wt., Lbs.	Net Each
R-104A	500 CT	40	.....	.....	6.3 CT	2	1.55	$15.78
R-104B	500 CT	40	.....	.....	6.3 CT	2	1.55	15.47
R-105A	600 CT	65	.....	.....	6.3 CT	2.7	2	18.05
R-105B	600 CT	65	.....	.....	6.3 CT	2.7	2	17.59
R-106A	480 CT	50	5	2	6.3 CT	2	2.1	19.47
R-108A	500 CT	75	5	2	6.3 CT	2.5	2.4	19.69
R-109A	600 CT	75	5	2	6.3 CT	3	2.9	19.97
R-110A	525 CT	90	5	2	6.3 CT	5	3.25	22.95
R-110B	525 CT	90	5	2	6.3 CT	5	3.25	22.76
R-111A	700 CT	90	5	3	6.3 CT	3.5	3.25	24.38
R-111B	700 CT	90	5	3	6.3 CT	3.5	3.25	24.10
R-112A	550 CT	110	5	2	6.3 CT	5	3.7	24.22
R-112B	550 CT	110	5	2	6.3 CT	5	3.7	24.64
R-114A	700 CT	125	5	3	6.3 CT	4.5	4.7	25.95
R-115A	680 CT	70	5	2	6.3 CT	2.5	3.5	22.17
R-116A	700 CT	160	5	3	6.3 CT	5	5.65	29.45
R-118B	750 CT	175	5	3	6.3 CT	8	7.45	42.10
R-120A	700 CT	200	5	3	6.3 CT	8	8.25	35.07
R-121A	800 CT	200	5	3	6.3 CT	6	8.25	39.36

PLATE POWER TRANSFORMERS

Static Shield; Primary 115 Volts—50/60 Hz

Triad No.	Secondary Volts AC§	Secondary Volts DC	Secondary mADC CCS	Secondary mADC ICAS	Rect. Fil.	Wt. Lbs.	Net Each
P-1A	440/220 CT	180/90	160	192	5V-3A	4	$ 30.45
P-3A	600/300 CT	250/125	300	360	5V-4A	6.25	36.90
P-5A#	1100 CT	400	250	300	5V-4A	8	48.48
P-7A#	1235 CT	500	250	300	5V-4A	9	52.21
P-11A#	1455 CT	600	250	300	.....	8.5	46.83
P-14A	1780 CT‡	750/600	250	300	.....	13.5	73.45
P-215AL	2340 CT*†	1000	250	300	.....	13.5	70.03
P-217AL	2880 CT*†	1250	250	300	.....	14.8	76.95
PR-21AL#	3300 CT*†	1500	500	600	.....	29	151.93

*Primary, 115/230 VAC. †Plate leads outside of case for rectifiers. ‡Also 1425 VAC CT. §Secondary CT must be grounded. #60 Hz operation.

SOLID STATE RECTIFIER POWER TRANSFORMERS

Prl., 117 V, 50/60 Hz. Fil. 2 and 3 are 6.3 V.

Triad No.	Sec. Volts	DC A	Fil. 2, 3	Net Each	Triad No.	Sec. Volts	DC A	Fil. 2, 3	Net Each
R-200A	400 CT	0.4	3a	$42.29	R-208A	80 CT	1.2	.....	$19.22
R-201A	300 CT	0.6	2.5a	37.31	R-204A	80 CT	2.0	1.5a	38.60
R-202A	200 CT	0.8	2a	40.84	R-209B	60 CT	3.0	.....	26.78
R-203A	100 CT	1.6	1.5a	35.95	R-205A	60 CT	2.5	1.5a	32.47
R-82B	70 CT	3.0	.....	35.48	R-206B	54 CT	1.25	.....	18.71

SIGNALING TRANSFORMERS

Triad No.	Primary Volts	Secondary Volts, AC	Amps	Size, Inches H. x W. x D.	Net Each
F-102X	115	4/8/12/16/20/24	2	2³/₃₂x3¹¹/₃₂x2½	$12.31
F-104U	115	4/8/12/16/20/24	4	3½x2⅞ x2¼	22.21

Power Supplies and Gauges

TOROIDAL INDUCTORS

Numbers indicate mH ratings. Tolerance, ±2% unless noted. Molded toroids with gold plated fixed terminals available; add suffix **A.** Prices on request. **A model only.

TYPE EM (¾" dia. x ⅜" h.)

EM-	mA*	Net	EM-	mA*	Net	EM-	mA*	Net
001	150	$7.64	015	39	$ 8.43	150	12.5	$ 9.79
002	108	7.64	025	30	6.86	200	11	10.41
004	76	7.95	030**	27.6	13.48	250**	9.6	14.57
005	68	8.07	050	22	9.09	300	8.8	11.52
007	57	9.28	060	19.5	9.28	400	7.6	12.07
010	48	8.34	100	15	9.64	1000	4.8	14.29

TYPE ET (1¼" dia. x ⅝" h.)

ET-	mA*	Net	ET-	mA*	Net	ET-	mA*	Net
001	680	$ 8.62	015	177	$ 9.02	150	56	$10.57
002	480	8.69	020**	153	13.64	200	48	10.16
003	396	8.62	025	137	11.00	250	43	9.40
004**	342	11.00	030**	125	13.17	300	40	10.22
005	306	8.86	050	97	8.02	400	34	10.50
007	260	7.28	060**	88	13.40	500	31	10.28
010**	217	16.29	100	68	10.10	700	26	10.78

*For 5% inductance drop. **A model only.

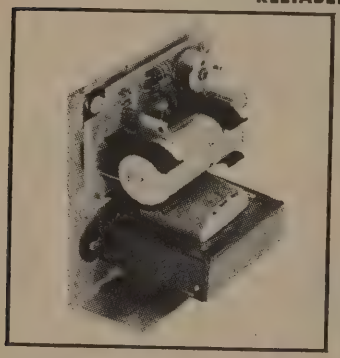
TYPES EA, EC AND EK

EA-	mA*	Net	EC-	mA*	Net	EK-	mA*	
001	270	$ 6.19	001	520	$ 7.09	030	150	$
002	192	6.74	003	300	7.14	040	130	
005**	121	10.53	005	233	7.21	080	92	
010	86	6.71	007	195	7.57	100	82	
015	70	6.78	010	165	7.48	200	58	
020	60	6.62	020	116	7.57	250	52	
025	54	6.10	030	95	6.47	700	31	
030	50	7.29	050	74	7.79	1000	26	
040	43	7.41	100	52	8.43	4000	13	
050**	38	11.86	200	37	8.81	7000	9.8	
070	32	7.09	250	33	5.12	30000	4.7	
100	27	7.52	300	30	8.69			
150	22	7.41	400	26	9.55			
200	19	7.26	500	23	9.52			
300	16	4.86	1000	16.5	10.14			
500	12	8.98	1500**	13.5	14.53			
600	11	8.90	2000	11.6	9.83			
1000	8.6	9.83	3000	9.5	12.10			
			5000	7.4	13.24			
			7000	6.2	10.93			
			10000	5.2	6.41			

SIZES

EA: 1⅛" dia. x ½" h.
EC: 1⅞" dia. x ¾" h.
EK: 2⅛"dia. x 1⅜"h.

RELIABLE, LOW COST GENERAL PURPOSE SUPPLIES



- Glass Epoxy Printed Circuit Board
- High performance IC regulator
- Computer grade filter capacitor
- All silicon semiconductors
- Foldback current limiting and short circuit protection
- Adjustable output

SPECIFICATIONS

Input: 115 volts ±10%, 60 Hz ±5%.
Regulation: Line, ±0.5%; load, ±0.5
Ripple: 5 mV rms or 15 mV p-p max.
Temperature Coefficient: 2%/°C.
Grounding: Floating output either p tive or negative max. may be grounde
Output Adjustment: ±5%.
Size: 2½" x 4" x 4½".

Triad Number	Output Volts	Output Amps 40° C	Output Amps 65° C	Net Each, Lots of 1-9	10-24	25-49	50-9
P-543	5	3.0	1.5	$60.64	$54.58	$49.12	$46.1
P-546	12	1.5	0.8	62.12	55.91	50.32	47.3
P-547	15	1.5	0.8	66.16	59.54	53.59	50.3
P-548	24	1.0	0.5	62.67	56.40	50.76	47.7

20 AMP DC POWER SOURCE



Provides the CB operator, amateur or boat owner an easy method of converting his mobile receiver or other battery operated automotive or marine equipment to "base station" use. Capable of handling a complete ham, CB or marine mobile station, including large SSB amplifiers up to 400 watts PEP output. The output voltage remains constant at 12.5 volts ±0.5 volts at 20 amps, and for line variations from 90 to 135 volts. Ripple voltage is 1.25 volts, p-p at 12.8 volts. A thermal switch protects the supply in case of overheating. A ferro-resonant transformer automatically limits the output current to 35 amps. Size, 7½" h. x 9½" d. x 6¼" w. Weight, 27 lbs.

Triad No. PS-2001—Net Each.....**$162.53**

LEAD BENDING GAUGES



Simple, precise gauges can be used to form up to 1200 leads per hour, easily and without damage to components. Five models provide fast, accurate forming for most components used in printed circuits. Each has 40 numbered positions for various lead formations; leads are bent rapidly with gentle finger pressure. **Type MK-1,** with .375" to 1.50" centers is for ¼-watt resistors, plus diodes, disc capacitors and other components of similar size. **Type MK-2,** with .50" to 1.50" centers, is for ½-watt resistors. **Type MK-3,** with .75" to 2.50" centers is for 1-watt resistors. **Type MK-4,** with .875" to 2.50" centers, is for 2-watt resistors and "top hat" diod The **MK-5** (.260 to 1.42 mtg. ctrs.) accepts all ⅛ watt resist and diodes—standard RC05 and DO-35 type components. Pro lead spacing can be assured by aligning the gauge between h or terminals to be used, noting the slot number that correspo to the required size. Can also be used to form jumper wires.

Triad Type	For Resistor Size	Net Each, Lots of 1-9	10-24	25-49	50-9
MK-1	¼-watt	$6.34	$5.71	$5.14	$4.8
MK-2	½-watt	6.34	5.71	5.14	4.8
MK-3	1-watt	8.00	7.20	6.48	6.0
MK-4	2-watt	8.00	7.20	6.48	6.0
MK-5	⅛-watt	6.34	5.71	5.14	4.8

OEM Bulk Pricing

lit us for prices on 500 pieces or more

Net Each, Lots of		Triad	Net Each, Lots of		Triad	Net Each, Lots of		Triad	Net Each, Lots of	
100-249	250-499	No.	100-249	250-499	No.	100-249	250-499	No.	100-249	250-499
$ 4.81	$ 4.45	F-31U	11.83	10.94	F-167P	7.58	7.01	F-280U	14.91	13.79
5.10	4.72	F-34A	15.09	13.76	F-168XP	5.07	4.69	F-281U	24.17	22.36
7.83	7.24	F-35U	19.76	18.28	F-169XP	6.31	5.84	F-282U	32.26	29.84
5.10	4.72	F-36A	20.85	19.29	F-170SX	7.67	7.09	F-283U	11.45	10.59
18.15	16.79	F-38A	23.97	22.17	F-171SX	7.96	7.36	F-284U	16.36	15.13
18.02	16.67	F-40X	5.24	4.85	F-172SX	8.75	8.09	F-293X	8.37	7.74
20.60	19.06	F-41X	7.62	7.05	F-173SX	8.81	8.15	F-294X	7.14	6.60
20.37	18.84	F-42A	12.80	11.84	F-174SX	7.62	7.05	F-295Z	7.10	6.57
21.99	20.34	F-43X	5.26	4.87	F-175SX	7.85	7.26	F-296Z	9.56	8.84
21.51	19.90	F-44X	5.72	5.29	F-176SX	8.90	8.23	F-297Z	8.19	7.58
21.14	19.55	F-45X	5.51	5.10	F-177SX	10.10	9.34	F-298Z	8.53	7.89
6.51	6.02	F-46X	5.51	5.10	F-178SX	9.81	9.07	F-299X	13.01	12.03
6.80	6.29	F-47U	11.14	10.30	F-179SX	11.06	10.23	F-301X	6.32	5.85
18.02	16.67	F-48U	16.16	14.95	F-180X	6.81	6.30	F-306X	8.05	7.45
20.88	19.31	F-49U	27.87	25.78	F-181U	11.42	10.56	F-313X	6.37	5.89
13.97	12.92	F-50X	9.22	8.53	F-182U	13.70	12.67	F-314X	6.14	5.68
6.32	5.85	F-51X	7.70	7.12	F-183U	16.16	14.95	F-316X	7.52	6.96
17.61	16.29	F-52X	6.94	6.42	F-184X	7.34	6.79	F-318X	11.25	10.41
13.85	12.81	F-53X	8.19	7.58	F-185U	10.49	9.70	F-325X	6.72	6.22
17.14	15.85	F-54X	8.51	7.87	F-187U	14.41	13.33	F-326X	8.27	7.65
15.70	14.52	F-55X	7.91	7.32	F-188X	5.40	5.00	F-333P	5.36	4.96
19.98	18.48	F-56X	9.43	8.72	F-189X	7.23	6.69	F-340X	8.55	7.91
17.99	16.64	F-57X	5.58	5.16	F-190U	12.08	11.17	F-341X	10.62	9.82
19.15	17.71	F-60U	12.08	11.17	F-191U	16.29	15.07	F-344X	8.13	7.52
18.12	16.76	F-61U	18.60	17.21	F-192X	8.37	7.74	F-345X	6.49	6.00
21.24	19.65	F-62U	33.18	30.69	F-193U	13.53	12.52	F-346X	7.23	6.69
16.63	15.38	F-63U	12.01	11.11	F-194X	6.35	5.87	F-347U	12.12	11.21
20.25	18.73	F-64U	14.42	13.34	F-195X	8.19	7.58	F-348XP	5.27	4.87
5.64	5.22	F-65U	18.10	16.74	F-196U	12.91	11.94	F-349XP	6.08	5.62
6.67	6.17	F-67U	34.77	32.16	F-197U	15.67	14.49	F 350XP	6.08	5.62
3.46	3.20	F-68U	19.60	18.13	F-198U	17.43	16.12	F-354X	10.32	9.55
3.03	2.80	F-69X	10.10	9.34	F-199U	22.98	21.26	F-355X	9.12	8.44
3.88	3.59	F-70X	5.92	5.48	F-200A	11.76	10.88	F-357X	7.70	7.12
3.27	3.02	F-72Z	9.80	9.07	F-202U	12.91	11.94	F-358XP	6.08	5.62
4.64	4.29	F-74U	16.52	15.28	F-203U	13.92	12.88	F-359XP	6.75	6.24
3.85	3.56	F-75U	26.68	24.68	F-204U	21.70	20.07	F-360U	12.76	11.80
4.92	4.55	F-79U	51.01	47.18	F-205U	29.47	27.26	F-361U	20.06	18.56
4.28	3.96	F-80U	88.23	81.61	F-206U	46.90	43.38	F 362XP	6.72	6.22
4.46	4.13	F-83A	22.70	21.00	F-207U	59.88	55.39	F-363XP	6.70	6.20
5.68	5.25	F-84AC	45.27	41.87	F-210X	8.25	7.63	F-364U	14.79	13.68
5.61	5.19	F-85U	42.35	39.17	F-211Z	9.29	8.59	F-365XP	6.75	6.24
9.17	8.48	F-90X	6.06	5.61	F-212Z	9.49	8.78	F-366XP	6.75	6.24
5.82	5.38	F-91X	7.80	7.22	F-213Z	9.42	8.71	F-390X	8.25	7.63
5.72	5.29	F-92A	12.99	12.02	F-214U	15.10	13.97	F-391X	9.25	8.56
10.35	9.57	F-93X	9.81	9.07	F-215U	25.35	23.45	F-392A	16.51	15.27
6.94	6.42	F-94X	4.98	4.61	F-216X	5.61	5.19	F-393X	11.83	10.94
10.18	9.42	F-95X	10.01	9.26	F-217X	6.72	6.22	F-394X	9.12	8.44
6.72	6.22	F-96U	11.35	10.50	F-218X	5.98	5.53	F-3112X	7.75	7.17
13.34	12.34	F-97U	14.45	13.37	F-219X	8.80	8.14	F-3115X	7.85	7.26
5.26	4.87	F-102X	7.96	7.36	F-220U	13.08	12.10	F-3116X	6.01	5.56
16.64	15.39	F-104U	14.37	13.29	F-221U	13.71	12.68	F-3117X	6.81	6.30
21.44	19.83	F-105Z	6.12	5.66	F-224X	7.85	7.26	F-3132P	4.24	3.92
24.28	22.46	F-106Z	8.05	7.45	F-225X	8.80	8.14	F-3142XP	4.93	4.56
4.57	4.23	F-107Z	8.53	7.89	F-226U	28.34	26.21	F-3143XP	4.93	4.56
5.40	5.00	F-108U	17.62	16.30	F-227X	6.14	5.68	F-3152XP	5.16	4.77
3.66	3.39	F-109U	33.37	30.87	F-228X	6.77	6.26	F-3153XP	5.16	4.77
3.50	3.24	F-112X	4.76	4.40	F-229X	8.53	7.89	F-3181U	13.29	12.29
4.65	4.30	F-113X	4.05	3.75	F-230X	7.01	6.48	F-3185U	14.08	13.02
5.27	4.87	F-114X	6.07	5.61	F-231X	8.59	7.95	F-3295Z	7.49	6.93
4.14	3.83	F-115X	4.96	4.59	F-232U	13.34	12.34	F-3297Z	9.83	9.09
3.62	3.35	F-116X	5.47	5.06	F-233Z	8.00	7.40	F-3298Z	10.72	9.92
3.35	3.10	F-117X	5.29	4.89	F-234Z	10.33	9.56	FP-10-600	6.17	5.71
4.60	4.26	F-118X	5.31	4.91	F-235Z	9.85	9.11	FP-101200	8.06	7.46
45.14	41.75	F-119X	6.37	5.89	F-236Z	10.35	9.57	FP-12-475	6.17	5.71
13.85	12.81	F-120X	5.87	5.43	F-237Z	9.12	8.44	FP-12-950	8.06	7.46
16.36	15.13	F-121X	5.98	5.53	F-238U	11.96	11.06	FP-16-375	6.20	5.74
26.59	24.60	F-122X	4.78	4.42	F-239U	19.13	17.70	FP-16-750	8.06	7.46
7.91	7.32	F-123X	7.14	6.60	F-240U	26.70	24.70	FP-20-300	6.20	5.74
10.92	10.10	F-124X	6.10	5.64	F-241U	13.84	12.80	FP-20-600	8.06	7.46
16.16	14.95	F-131P	6.43	5.95	F-242U	17.36	16.06	FP-24-250	6.20	5.74
18.94	17.52	F-132P	6.41	5.93	F-243U	23.07	21.34	FP-24-500	8.06	7.46
33.75	31.22	F-133P	6.77	6.26	F-244U	28.96	26.79	FP-30-200	6.20	5.74
72.85	67.39	F-134P	7.23	6.69	F-245U	38.40	35.52	FP-30-400	8.06	7.46
4.18	3.87	F-135P	7.71	7.13	F-246X	6.80	6.29	HS-1	72.85	67.39
3.53	3.27	F-136P	8.59	7.95	F 250X	6.35	5.87	HS-4	72.52	67.08
5.04	4.66	F-137P	7.80	7.22	F-251X	6.94	6.42	HS-27	53.18	49.19
8.46	7.83	F-138P	6.98	6.46	F-252U	10.49	9.70	HS-29	67.52	62.46
10.72	9.92	F-139P	6.94	6.42	F-253U	12.35	11.42	HSM-31	93.51	86.50
5.76	5.33	F-141XP	5.06	4.68	F-254X	7.06	6.53	HS-32	51.55	47.68
6.32	5.85	F-142XP	5.06	4.68	F-255X	13.76	12.73	HS-50	61.70	57.07
7.96	7.36	F 143XP	5.06	4.68	F-256U	12.86	11.90	HS-52	55.52	51.36
15.76	14.58	F-144XP	5.06	4.68	F-257U	15.76	14.58	HS-56V	61.23	56.64
17.36	16.06	F-145XP	4.72	4.37	F-258U	18.51	17.12	HS-60	41.75	38.62
19.13	17.70	F-146XP	5.06	4.68	F-259U	21.20	19.61	HS-66	56.16	51.95
9.65	8.93	F-147XP	5.30	4.90	F-260U	18.55	17.16	HSM-223	35.32	32.67
3.62	3.35	F-148XP	5.13	4.75	F-261U	21.32	19.72	HSM-229	35.46	32.80
4.30	3.98	F-149XP	5.06	4.68	F-262X	6.87	6.35	HSM-230	44.02	40.72
4.86	4.50	F-150P	6.04	5.59	F-263U	10.60	9.81	HSM-238	44.92	41.55
14.83	13.72	F-151XP	5.97	5.52	F-264U	15.65	14.48	HSM-240	62.93	58.21
6.37	5.89	F-152XP	6.08	5.62	F-265U	19.46	18.00	HSM-241	65.55	60.63
22.56	20.87	F-153XP	5.97	5.52	F-266U	27.00	24.98	HSM-245	78.24	72.37
10.49	9.70	F-154XP	6.08	5.62	F-267U	20.30	18.78	K-100A	62.19	57.53
8.05	7.45	F-155XP	6.08	5.62	F 268U	27.90	25.81	K-101A	79.50	73.54
16.31	15.09	F 156XP	6.47	5.98	F-269U	32.91	30.44	K-102	117.61	108.79
16.16	14.95	F-157XP	5.97	5.52	F 270X	8.25	7.63	K-103A	140.96	130.39
22.29	20.62	F-158XP	5.97	5.52	F-271U	11.64	10.77	K-104A	177.17	163.88
14.50	13.41	F-159XP	5.97	5.52	F-272U	16.58	15.34	K-105A	217.41	201.10
13.95	12.90	F-160P	7.11	6.58	F 273U	24.70	22.85	K-106A	277.98	257.13
5.14	4.75	F-161XP	5.06	4.68	F-274U	31.93	29.54	KA-1	14.41	13.33
5.94	5.49	F-162XP	5.06	4.68	F-275U	37.43	34.62	KA-2	15.05	13.92
30.67	28.37	F-163XP	6.01	5.56	F-276X	8.05	7.45	KA-3	14.82	13.71
21.51	19.90	F-164XP	6.01	5.56	F-277U	13.74	12.71	N-1X	6.41	5.93
7.49	6.93	F-165P	7.25	6.80	F-278U	19.28	17.83	N-3M	14.01	12.96
12.19	11.28	F-166XP	6.20	5.74	F-279U	10.49	9.70	N-4M	15.73	14.55

OEM Bulk Pricing

Consult us for prices on 500 pieces or more

Triad No.	Net Each, Lots of 100-249	250-499
N-5M	22.43	20.75
N-7M	39.16	36.22
N-9M	90.27	83.50
N-11M	104.47	96.63
N-33MG	46.48	42.99
N-34X	9.69	8.96
N-36MG	67.41	62.35
N-37MG	85.79	79.36
N-48X	5.47	5.06
N-49X	7.57	7.00
N-51X	7.20	6.66
N-52M	98.70	91.30
N-53M	16.63	15.38
N 54M	22.76	21.05
N-55M	35.49	32.83
N-57M	94.89	87.77
N-59M	99.24	91.80
N-60SC	222.03	205.38
N-62U	117.12	108.34
N-64AC	57.20	52.91
N-66A	30.60	28.31
N-67A	18.91	17.49
N-68X	9.16	8.47
N-73A	19.18	17.74
N 74A	20.15	18.64
N-150MG	57.30	53.00
N-250MG	58.17	53.81
N 469A	11.25	10.41
N-470A	17.06	15.78
N-471A	29.54	27.32
N-500MG	62.24	57.57
N-1000MG	70.93	65.61
P-1A	19.71	18.23
P-3A	23.89	22.10
P-5A	31.37	29.02
P-7A	33.79	31.26
P-11A	30.31	28.04
P-14A	47.54	43.97
P-215AL	45.33	41.93
P-217AL	49.80	46.07
P-543	39.24	36.30
P-546	40.21	37.19
P-547	42.81	39.60
P-548	40.55	37.51
PL-10	3.54	3.27
PL-11	3.57	3.30
PL-20	4.21	3.89
PL-21	4.41	4.08
PL-30	8.43	7.80
PL-31	6.44	5.96
PL-32	6.72	6.22
PL-33	7.79	7.21
PL-34	7.23	6.69
PR-21AL	98.34	90.96
R-2C	9.49	8.78
R-3A	10.97	10.15
R-4A	10.59	9.80
R-5A	12.48	11.54
R-6A	13.39	12.39
R-7A	13.28	12.28
R-8A	14.99	13.87
R-9A	16.14	14.93
R-10A	16.34	15.11
R-11A	17.33	16.03
R-11B	17.09	15.81
R-12A	17.26	15.97
R-14A	20.06	18.56
R-14B	19.24	17.80
R-16A	22.58	20.89
R-20A	26.78	24.77
R-20B	25.97	24.02
R-21B	28.14	26.03
R-22A	13.86	12.82
R-23B	12.19	11.28
R-24A	32.14	29.73
R-25A	67.90	62.81
R-26A	35.78	33.10
R-29A	9.77	9.04
R-30X	8.32	7.70
R-41C	28.66	26.51
R-43C	22.30	20.63
R-45C	22.26	20.59
R-52BC	30.18	27.92
R-53Z	7.16	6.62
R-54X	5.53	5.12
R-54Z	6.10	5.64
R-56A	10.61	9.81
R-67BC	31.26	28.92
R-68A	14.72	13.62
R-70A	20.44	18.91
R-71A	31.51	29.15
R-72A	20.53	18.99
R-77BS	40.27	37.25
R-78BC	19.01	17.58
R-82B	22.97	21.25
R-84X	10.12	9.36
R-104A	10.21	9.44
R-104B	10.01	9.26
R-105A	11.69	10.81
R-105B	11.39	10.54
R-106A	12.60	11.66
R-108A	12.74	11.78
R-109A	12.92	11.95
R-110A	14.85	13.74
R-110B	14.72	13.62
R-111A	15.78	14.60
R-111B	15.60	14.43
R-112A	15.67	14.49
R-112B	15.95	14.75
R-114A	16.80	15.54
R-115A	14.35	13.27
R-116A	19.07	17.64
R-118B	27.24	25.20
R-120A	22.70	21.00
R-121A	25.47	23.56
R-200A	27.37	25.32
R-201A	24.15	22.34
R-202A	26.44	24.46
R-203A	23.26	21.52
R-675A	35.38	32.73
S-1X	3.88	3.59
S-2X	3.88	3.59
S-3X	4.13	3.82
S-5X	4.95	4.58
S-5Z	5.08	4.70
S-6X	3.91	3.62
S-6Z	3.83	3.54
S-7X	4.06	3.76
S-8X	3.84	3.55
S-9X	4.95	4.58
S-11X	3.91	3.62
S-11Z	3.10	3.87
S-12X	3.78	3.50
S-12Z	3.70	3.42
S-13X	4.28	3.96
S-15X	4.72	4.37
S-16X	3.91	3.62
S-17X	4.20	3.89
S-18X	4.59	4.25
S-19Z	6.21	5.74
S-20X	3.70	3.42
S-22A	12.88	11.91
S-23X	4.36	4.03
S-24A	11.88	10.99
S-25Z	7.74	7.16
S-26X	4.68	4.33
S-28X	8.16	7.55
S-29X	7.16	6.62
S-30X	3.93	3.64
S-31A	16.79	15.53
S-35A	16.93	15.66
S-39X	4.39	4.06
S-40X	3.90	3.61
S-41X	4.22	3.90
S-42A	31.35	29.00
S-43Z	9.29	8.59
S-44Z	7.74	7.16
S-46A	16.06	14.86
S-47Z	7.93	7.34
S-51X	7.23	6.69
S-52X	8.31	7.69
S-53X	8.00	7.40
S-54X	7.93	7.34
S-55X	10.06	9.31
S-55Z	10.00	9.25
S-56Z	9.40	8.70
S-57Z	9.94	9.19
S-58X	6.96	6.44
S-60A	20.37	18.84
S-61Z	11.39	10.54
S-62X	7.60	7.03
S-63X	7.04	6.51
S-64X	4.81	4.45
S-65X	4.68	4.33
S-66X	5.89	5.45
S-68Z	7.04	6.51
S-69Z	7.38	6.83
S-70Z	9.17	8.48
S-71Z	9.67	8.94
S-72Z	10.17	9.41
S-73X	8.74	8.08
S-76Z	9.44	8.73
S-77U	19.10	17.67
S-78Z	9.97	9.22
S-79Z	10.56	9.77
S-81X	6.01	5.56
S-83Z	8.02	7.42
S-84X	11.12	10.29
S-85X	8.44	7.81
S-86Z	9.96	9.21
S-129Z	8.85	8.19
S-131X	5.82	5.38
S-132X	7.23	6.69
S-133Z	9.75	9.02
S-142A	19.48	18.02
S-146A	29.74	27.51
S-2501	3.96	3.66
S-2502	3.71	3.43
S-2505	4.93	4.56
S-2510	5.58	5.16
S-7001	3.75	3.47
S-7002	5.66	5.24
S-7005	5.66	5.24
S-7010	5.42	5.01
SP-4	11.20	10.36
SP-5	10.98	10.16
SP-7	10.10	9.34
SP-11	9.15	8.46
SP-13	10.57	9.78
SP-15	10.67	9.87
SP-20	10.46	9.68
SP-21	10.51	9.72
SP-22	10.84	10.03
SP-29	10.17	9.41
SP-32	8.11	7.50
SP-33	8.59	7.95
SP-34	7.61	7.04
SP-35	7.91	7.32
SP-36	8.06	7.46
SP-42	8.08	7.47
SP-47	8.83	8.17
SP-48	9.10	8.42
SP-49	9.03	8.35
SP-50	8.98	8.31
SP-51	9.10	8.42
SP-52	9.43	8.72
SP-65	8.71	8.06
SP-66	10.57	9.78
SP-67	9.69	8.96
SP-68	10.84	10.03
SP-69	9.72	8.99
SP-70	8.72	8.07
SP-106	7.39	6.84
SP-107	7.00	6.48
SP-108	7.18	6.64
SP-117	7.16	6.62
SP-118	7.65	7.08
SP-128	6.72	6.22
SR-45Z	11.19	10.35
T-1X	7.45	6.89
T-2X	7.61	7.04
T-3X	7.96	7.36
T-5X	7.17	6.63
T-12X	7.58	7.01
T-13X	7.28	6.73
T-20X	6.61	6.11
T-22X	6.12	5.66
T-23X	7.22	6.68
T-24X	5.93	5.49
T-25X	6.20	5.74
T-26X	6.14	5.68
T-31X	6.14	5.68
T-32X	5.10	4.72
T-33X	8.03	7.43
T-34X	5.04	4.66
T-35X	6.19	5.73
T-41X	6.44	5.96
T-101X	6.08	5.62
T-102X	3.78	3.50
T-300	4.27	3.95
TY-18X	5.68	5.25
TY-19XT	7.79	7.21
TY-20Z	6.86	6.35
TY-22XT	6.77	6.26
TY-24X	8.81	8.15
TY-25X	9.61	8.89
TY-26X	11.69	10.81
TY-27XT	8.64	7.99
TY-29X	7.93	7.34
TY-30X	5.76	5.33
TY-31X	5.82	5.38
TY-32X	6.13	5.67
TY-33X	6.70	6.20
TY-34X	6.60	6.11
TY-35X	5.51	5.10
TY-36X	5.82	5.38
TY-37X	6.89	6.37
TY-38X	8.03	7.43
TY-39X	8.59	7.95
TY-40X	7.83	7.24
TY-41X	4.39	4.06
TY-44X	7.39	6.84
TY-45X	7.63	7.06
TY-46X	6.92	6.40
TY-47X	8.02	7.42
TY-48X	7.00	6.48
TY-49X	6.51	6.02
TY-51X	7.59	7.02
TY-52X	9.10	8.42
TY-53X	6.13	5.67
TY-54X	7.16	6.62
TY-55X	6.64	6.14
TY-56X	7.75	7.17
TY-57X	6.80	6.29
TY-58X	5.97	5.52
TY-59X	10.74	9.93
TY-60X	8.66	8.01
TY-61X	4.61	4.26
TY-62X	6.35	5.87
TY-63X	7.77	7.19
TY-64X	7.37	6.82
TY-65Z	7.04	6.51
TY-67A	16.57	15.33
TY-68S	10.32	9.55
TY-69S	10.98	10.16
TY-71S	10.85	10.04
TY-74S	15.57	14.40
TY-75A	27.05	25.02
TY-76A	17.65	16.33
TY-77S	18.24	16.87
TY-78	24.49	22.65
TY-79	26.88	24.86
TY-81	25.87	23.93
TY-82	26.76	24.75
TY-83	32.50	30.06
TY-84	32.16	29.75
TY-85	36.42	33.69
TY-86	33.19	30.70
TY-88	20.71	19.16
TY-89	23.09	21.36
TY-90	28.38	26.25
TY-91	25.42	23.51
TY-92	27.62	25.55
TY-93	36.42	33.69
TY-99	25.38	23.48
TY-100	24.66	22.81
TY-141P	4.78	4.42
TY-142P	4.61	4.26
TY-143P	4.43	4.10
TY-144P	5.15	4.76
TY-145P	4.78	4.42
TY-146P	7.10	6.57
TY-147P	5.08	4.70
TY-150X	6.73	6.23
TY-151XT	7.92	7.33
TY-152X	5.30	4.90
TY-158X	8.47	7.83
TY-159X	8.21	7.59
TY-160X	9.78	9.05
TY-200X	12.36	11.43
TY-201TZ	8.63	7.98
TY-202X	9.61	8.89
TY-300P	6.94	6.42
TY-301P	5.69	5.26
TY-302P	9.06	8.38
TY-303P	5.69	5.26
TY-304P	5.69	5.26
TY-350P	5.69	5.26
TY-462	21.36	19.76
TY-468	18.86	17.45
TZ-1	9.52	8.81
TZ-5	12.11	11.20
TZ-7	6.86	6.35
TZ-13	8.52	7.88
TZ-15	8.16	7.55
TZ-17XT	8.21	7.59
TZ-24XT	11.42	10.56
TZ-25	6.67	6.17
TZ-26	6.67	6.17
TZ-28	5.72	5.29
TZ-32XT	6.96	6.44
TZ-103XT	2.75	2.54



DURACELL® MERCURY BATTERIES

Duracell Mercury batteries offer more power per unit of volume than any other type. Sizes range from the RM312, which is aspirin tablet size, up thru the Power-Pak types. Voltage stability is excellent, as is storage life. Types with **R** in the suffix are rated at 1.35 volts per cell; all others rated 1.4 V. All have flat terminals unless otherwise noted.

mber	Volts	mAH	Use	Size, Inches	Oz.	Net
01H	1.4	1000	Paging	2 9/64 dia. x 1 1/8	0.4	$1.00
75H	1.4	220	Calculator	2 9/64 dia. x 7/32	0.07	.38
	1.4	1000	Phys. hndcp.	5/8 dia. x 2 1/32	0.43	1.48
R	1.35	1000	Electronic	5/8 dia. x 2 1/32	0.43	1.61
R	1.35	3400	Electronic	1.2 dia. x 2 1/32	1.6	3.15
2	1.4	3600	Tape rcrdr.	5/8 dia. x 1 61/64	2.0	3.02
2R	1.35	3600	Tachometer	5/8 dia. x 1 61/64	2.0	3.35
3H	1.4	85	Phys. hndcp.	5/16 dia. x 7/32	...	.37
1H	1.4	150	Calculator	.455 dia. x .160	...	.38
2R	1.35	14000	Elec. "D"	1.2 dia. x 2 3/8	5.9	7.04
12H	1.4	45	Phys. hndcp.	5/16 dia. x 9/64	0.02	.38
01H	1.4	800	Radio "N"	2 9/64 dia. x 1 1/8	0.4	.86
01R	1.35	800	Electronic	2 9/64 dia. x 1 1/8	0.4	1.75
01R	1.35	1800	Electronic	5/8 dia. x 1 5/32	1.2	2.22

DURACELL® PHOTO BATTERIES

x **B** indicates blister pack. **B2** indicates pack of 2.

mber	Volts	Wt. Oz.	Net Each	Number	Volts	Wt. Oz.	Net Each
B	1.35	0.6	$1.55	PX32B	5.6	1.2	$2.95
3B	1.35	0.14	1.34	PX625B	1.35	0.15	1.34
4B	2.7	0.3	2.42	PX640B	1.35	0.38	1.48
9*‡	4.5	1.2	2.01	PX675B	1.35	0.07	1.34
1*‡	4.5	1.2	2.01	PX825*	1.5	0.38	.88
3B	5.6	2.0	1.48	PX825B2*	1.5	0.38	1.77
4*‡	3.0	1.0	1.95	MN9100	1.5	0.33	.74
5B	4.05	0.5	2.95	MN9100B2	1.5	1.17	1.49
7B	5.6	1.6	1.48	RM400RB	1.35	0.33	1.34
8B†	6.0	0.13	6.64	7R31	4.2	0.67	2.35
8LB	6.0	0.83	3.96	7R31B	4.2	0.67	2.36
/3NB	3.0	0.58	2.62	5K65*	9	....	2.62
0*	3.0	1.5	1.75	7K67*	6	....	2.15
0B	3.0	1.5	1.76	9K62B	3.0	1.0	1.68

aline; †Silver oxide; all others mercury. ‡Available in single er pack, add **1c** to price.

DURACELL® SILVER OXIDE GRID BIAS CELLS

mber	Volts	Size, In.	Net Each	Number	Volts	Net Each
13H	1.50	.21 x .31	$0.83	MS312H	1.50	$0.73
41H	1.50	.16 x .46	.86			
76B	1.50	.21 x .46	2.35			
76H	1.50	.46 x .21	1.56			

ndard package, weight, 8 oz.; all others 4 oz.

NICKEL-CADMIUM RECHARGEABLE BATTERIES

lory nickel cadmium batteries can be recharged 1000 times or e and deliver constant power during discharge. Safety vent vents bursting due to internal over-pressure.

Number	Rating AH	Size	Net Each
NC15AA*	0.5	"AA"	$ 2.55
NC14C*	1.0	"C"	2.98
NC13D*	1.2	"D"	2.98
NC169V	0.08	9 V	6.44
3C1	Charger for above		16.47

d **B** for blister pack (2).

SMOKE ALARM MERCURY BATTERIES

umber	Volts	mAH	Size, Inches	Net
R431*	11.2	1,000	1.03 x 2.875	$5.97
4116*	12.6	900	1.03 x 2.875	5.97

ailable in blister pack; add suffix **B** to number and **1c** to price.

DURACELL® ALKALINE BATTERIES

igned for high drain use such as photoflash, movie cameras, ting, etc.; up to 10 times longer life than zinc-carbon types.

lumber	Volts	Use	Wt. Oz.	Net Each
N1300	1.5	All purpose "D"	5¼	$0.85
N1300B2		Pack of 2		1.71
N1400	1.5	All purpose "C"	2⅓	.85
N1400B2		Pack of 2		1.71
N1500	1.5	All purpose "AA"		.65
N1500B2		Pack of 2		1.31
N1500B4		Pack of 4		2.48
N1604	1.5	Radio	1½	1.70
N1604B		Blister pack		1.71
N1604B2		Pack of Two		3.10
N2400	1.5	All purpose "AAA"	.34	.65
N2400B2		Pack of 2		1.31

Number	Volts	mAH	Use	Size, Inches	Oz.	Net
RM625H	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.14	$0.97
RM625R	1.35	250	Electronic	5/8 dia. x 1/4	0.14	1.48
RM630H	1.4	350	Phys. hndcp.	5/8 dia. x 1/4	0.17	1 08
RM640	1.4	500	Radio	5/8 dia. x 7/16	0.26	1.34
RM675H	1.4	160	Phys. hndcp.	2 9/64 dia. x 1 3/64	0.07	.37
TR126	8.4	600	Radio	3/4 dia. x 2	1.6	4.36
TR132H	2.8	1000	Paging	2 1/32 dia. x 1 5/16	1	2.07
TR132R	2.7	1000	Electronic	2 1/32 dia. x 1 5/16	1	2.89
TR133	4.2	1000	Radio, Pag.	2 1/32 dia. x 2	1.4	3.96
TR133R	4.05	1000	Radio, Pag.	2 1/32 dia. x 2	1.4	4.23
TR134	5.6	1000	Gar. door	2 1/32 dia. x 2 39/64	1.9	3.56
TR134R	5.4	1000	Electronic	2 1/32 dia. x 2 39/64	1.9	4.43
TR135R	6.75	1000	Electronic	2 1/32 dia. x 3 1/4	2.4	5.36
TR136	8.4	1000	Gar. door	2 1/32 dia. x 3 49/32	2.9	4.83
TR146X*	8.4	575	Radio	1 x 2 1/32 x 1 3/4	2.0	3.82
TR164	5.6	500	Radio	2 1/32 dia. x 1 3/4	1.16	3.35
TR164R	5.40	500	Electronic	2 1/32 dia. x 1 3/4	1.16	4.23
TR165	7	500	TV tuner	2 1/32 dia. x 2 3/16	1.45	4.29
TR175	7	160	Radio	3 1/64 dia. x 1 1/32	0.4	2.95
TR177*	9.8	160	Radio	3 5/64 dia. x 1 49/32	0.67	3.82
TR286*	8.4	750	Radio	1 dia. x 1 15/16	1.6	5.10
TR289*	12.6	750	CB radio	1 dia. x 2 25/64	3.6	6.77
ZM9	1.4	2400	Radio "AA"	1/2 dia. x 1 31/32	1	2.01
9R81	1.4	800	Paging	2 9/64 dia. x 1 1/8	0.4	1.75
303858	16.2	250	Insts.	.....	....	17.69
303996	9.0	575	Medical	.....	....	4.36

*Snap terminals.

DURACELL® WATCH AND CALCULATOR BATTERIES

Number	Volts	mAH	Diam.	Height	Net
D301	1.50	100	.455″	.165″	$2.04
D303	1.50	200	.455″	.220″	2.37
D313*	1.35	220	.455″	.208″	1.23
D323*	1.35	95	.305″	.210″	.96
D325*	1.35	50	.305″	.141″	1.23
D343*	1.35	120	.455″	.137″	.96
D344	1.50	83	.455″	.135″	1.65
D350	1.50	90	.455″	.137″	1.62
D355	1.50	250	.610″	.190″	3.42
D357	1.50	180	.455″	.210″	2.13
D386	1.50	120	.455″	.165″	1.62
D387*	1.35	80	.455″	.137″	1.53
D388*	1.35	62	.348″	.130″	1.23
D389	1.50	70	.455″	.110″	1.47
D391	1.50	35	.455″	.085″	1.59
D392	1.50	38	.305″	.143″	1.02
D393	1.50	70	.305″	.210″	1.23

*Mercury; all others silver-oxide.



ZINC-CARBON BATTERIES

Mallory zinc-carbon batteries are manufactured to rigid quality control standards. Each type is specially engineered to provide the finest operation for its specific use. A wide variety of sizes and voltages are available for use in lighting, radios, toys, games, etc. Standard D and C cells are "Sealed in steel" for maximum protection from leakage.

Number	Nom. V	Use	T*	Size, Inches L. x W. x H.	Wt., Oz.	Net Each
M13F	1.5	Flashlight "D"	b	1 1/32 dia. x 2 1/32	3.3	$0.2925
M13FG2†	1.5	2-pack M13F	b	1 1/32 dia. x 2 1/32	6.6	.585
M13HD	1.5	"D"heavy duty	b	1 9/64 dia. x 2 25/64	3.0	.4025
M13HD2†	1.5	2-pack M13HD	b	1 9/64 dia. x 2 25/64	6.0	.815
M14F	1.5	Flashlight "C"	b	1 1/32 dia. x 1 15/16	1.5	.2925
M14FG2†	1.5	2-pack M14F	b	1 1/32 dia. x 1 15/16	3.0	.585
M14HD	1.5	"C"heavy duty	b	63/64 dia. x 1 29/32	1.33	.4025
M14HD2†	1.5	2-pack M14HD	b	63/64 dia. x 1 29/32	2.66	.815
M15F	1.5	"AA" penlight	b	5/16 dia. x 1 31/32	0.5	.2275
M15FB2†	1.5	Blister 2-pack	b	5/16 dia. x 1 31/32	1.0	.465
M15HD	1.5	"AA"hvy. duty	b	35/64 dia. x 1 61/64	.833	.3125
M15HD4‡	1.5	4-pack M15HD	b	35/64 dia. x 1 61/64	3.33	1.26
M24F	1.5	"AAA"	b	1 31/32 dia. x 1 3/4	0.4	.2275
M215	22.5	Radio "B"	b	1 1/32 x 5/8 x2	1.4	1.88
M504	15	Photo "B"	b	5/8 x 1 9/32x1 3/8	0.6	2.07
M505	22.5	Photo "B"	b	5/8 x 1 9/32x1 63/64	0.8	2.63
M900	1.5	Small ignition	e	2 5/8 x2 5/8 x4 9/32	24	2.20
M905S	1.5	#6 Ignition	e	2 5/8 dia. x 6 5/8	29	3.72
M908	6	Metal lantern	d	2 11/16x2 11/16x4 7/16	21	1.83
M910	1.5	Noveities	b	2 9/64 dia. x 1 1/8	0.4	.195
M915	6	Lighting	e	2 11/16x2 11/16x4 5/32	21	2.10
M918	6	Lantern	e	5 1/32x2 27/32x4 15/16	52	4.96
M926	12	Lantern	e	5 1/32x2 27/32x4 15/16	52	6.94
M1604	9	Radio, transis.	c	1 1/32 x 1 1/16x1 29/32	1.3	.64
M1604B2	9	Blister pack	c	1 1/32 x 1 1/16x1 29/32	1.3	1.04
M1604HD	9	Radio, transis.	c	1 1/32 x 1 1/16x1 29/32	1.3	1.00
M1604HD2	9	Blister pack	c	1 1/32 x 1 1/16x1 29/32	1.3	1.49
PF489	225	Elect. flash	a	4 11/32x2 11/16x4 3/16	76	25.31
PF491	240	Elect. flash	a,b	2 19/32x1 5/16 x4 1/2	13	12.24
PF497	510	Elect. flash	b	3 x1 19/32x5 5/8	26	21.89

*Terminals: **a**, socket; **b**, flat; **c**, snap; **d**, coil spring; **e**, screw. †Packaged 2 per cardboard display pack. ‡Packaged 4 per cardboard display pack.

EVEREADY® Batteries

TRANSISTOR ENERGIZER BATTERIES FOR PORTABLE RADIO AND ELECTRONIC APPLICATIONS

No.	Voltage or Size	Overall Size, In. L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg.	List Price Ea.	Net Each in Unit Pkg.
206	9	¾ dia. x 2	Flat Contacts, Neg. Recess. −, +9	1.2 oz.	1	$2.30	$1.53
216	9	1 1/32 x 2 1/32 x 1 23/32	Min. Snap−,+9	1.5 oz.	12	.99	.64
216BP▲	9	1 1/32 x 2 1/32 x 1 23/32	Min. Snap−, +9	1.5 oz.	12	.99	.65
216BP-2▲	9	1 1/32 x 2 1/32 x 1 23/32	Min. Snap−, +9	1.5 oz.	12	1.58	1.04
226	9	1 dia. x 1 15/16	Snap Type−, +9	2 oz.	6	2.70	1.79
228	12	1 dia. x 2 7/16	Snap Type−, +12	2.3 oz.	1	4.70	3.13
246	9	1 13/32 x 1 11/32 x 2 3/4	Min. Snap−, +9	4.5 oz.	1	3.70	2.47
266	9	1 13/16 x 1 13/16 x 2 7/16	Snap Type,− +9	7 oz.	1	3.70	2.47
276	9	2 3/16 x 2 1/32 x 3 5/32	Snap Type−, +9	15 oz.	1	4.90	3.26
522	9	1 1/32 x 1 1/16 x 1 15/16	Min. Snap−, +9	1.59 oz.	12	2.60	1.68
522BP▲	9	1 1/32 x 1 1/16 x 1 15/16	Min. Snap−, +9	1.59 oz.	12	2.60	1.69
1015	AA	5/16 dia. x 1 31/32	Flat Contacts−, +1½	0.6 oz.	24	.40	.25
1015BP-4▲	AA	5/16 dia. x 1 21/32	Flat Contacts−, +1½	0.6 oz.	12	1.60	1.01
1222	9	1 1/32 x 1 1/16 x 1 13/16	Min. Snap−, +9	1.5 oz.	12	1.59	1.00
2156N	9	2 3/16 x 1 5/32 x 6 1/4	Snap Type−, +9	11 oz.	1	10.90	7.27
2709N	9	1 13/32 x 4 7/64 x 4 1 1/16	Snap Type−, +9	2.5 oz.	1	7.10	4.73

▲Blister pack.

SEALED RECHARGEABLE NICKEL-CADMIUM BATTERIES FOR PORTABLES AND ELECTRONIC APPLICATIONS

No.	Cell Type	Voltage	Overall Size, In. L. x W. x H.	Terminals and Voltages	Unit Pkg.	Weight	List Price Ea.	Net Ea. in Unit Pkg.
CF1.2	Sub C	1.2	0.900 dia. x 1.684	Flat Contacts−,+1.2	1	1.7 oz.	$ 9.60	$ 5.95
CF1.2T*	Sub C	1.2	0.900 dia. x 1.689	Solder Tabs−,+1.2	1	1.7 oz.	10.30	6.39
CH1.2	Sub C	1.2	0.900 dia. x 1.684	Flat Contacts−,+1.2	1	1.7 oz.	8.00	4.96
CH1.2T*	Sub C	1.2	0.900 dia. x 1.689	Solder Tabs−,+1.2	1	1.7 oz.	8.70	5.39
CF4	D	1.2	1.294 dia. x 2.390	Flat Contacts−, +1.2	6	5.4 oz.	17.65	10.94
CF4T*	D	1.2	1.294 dia. x 2.410	Solder Tabs−,+1.2	1	5.4 oz.	18.30	11.35
CH4	D	1.2	1.344 dia. x 2.406	Flat Contact−,Solder Tab+1.2	1	5.4 oz.	14.70	9.11
CH4T*	D	1.2	1.344 dia. x 2.416	Solder Tabs−,+1.2	1	5.4 oz.	15.35	9.52
CF15	AA	1.2	0.553 dia. x 1.969	Flat Contacts −, +1.2	1	0.8 oz.	4.95	3.09
CF15T*	AA	1.2	0.553 dia. x 1.981	Solder Tabs −, +1.2	1	0.8 oz.	5.65	3.51
CH15	AA	1.2	.553 dia. x 1.969	Flat Contacts−, +1.2	1	0.8 oz.	3.90	2.42
CH15BP-2▲	AA	1.2	0.553 dia. x 1.969	Flat Contacts−,+1.2	1	0.8 oz.	7.80	4.85
CH15T*	AA	1.2	.553 dia. x 1.981	Solder Tabs−, +1.2	1	0.8 oz.	4.55	2.82
CH3S	C	1.2	1 1/4 dia. x 1 11/16	Flat Contacts−, +1.2	1		4.55	2.82
CH3SBP-2▲	C	1.2	1½ dia. x 1 3/32	Flat Contacts−,+1.2	1	1.95 oz.	9.10	5.66
CH5D	D	1.2	1 11/16 dia. x 2 27/64	Flat Contacts−, +1.2	1	2.2 oz.	4.55	2.82
CH5DBP-2▲	D	1.2	1 11/32 dia. x 2 27/64	Flat Contacts−, +1.2	1	2.2 oz.	9.10	5.66
CH22	Transistor	7.2	1 3/64 x 3/64 x 1 17/32	Min. Snap−,+7.2	1	1.5 oz.	9.95	6.19
CH22BP▲	Transistor	7.2	1 3/64 x 3/64 x 1 15/16	Min. Snap−,+7.2	1	1.5 oz.	9.95	6.19
CH150	N	1.2	0.475 dia. x 1.135	Flat Contacts−,+1.2	1	0.4 oz.	4.65	2.88
CH150T*	N	1.2	0.475 dia. x 1.145	Solder Tabs−,+1.2	1	0.4 oz.	5.30	3.29
ACC100	Nickel-cadmium battery charger, charges 1 to 10 cells, all types					6.0 oz.	17.98	11.99
ACC75	Nickel-cadmium battery charger, charges AA, C, D sizes					4.5 oz.	27.99	18.66
ACC50	Nickel-cadmium battery charger, charges AA, C, D sizes					4.5 oz.	11.99	7.99
ACC22BP▲	Nickel-cadmium battery charger, charges N88 transistor size					1.3 oz.	10.99	7.33

*Have tabs to permit soldering leads to battery without damage. §Available in standard stacks of up to 10. ▲Blister pack.

"B" BATTERIES FOR PORTABLE RECEIVERS

"Eveready" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Contacts	List Price Each	Net Each *	"Eveready" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Contacts	List Price Each	Net Each *
411	15	1½ x 5/8 x 1 23/64	Flat	$ 2.10	$1.40	477	67½	1 25/32 x 6 3/64 x 5 7/16	Snap	$ 8.90	$5.93
412	22½	1½ x 5/8 x 2	Flat	2.50	1.68	479	90	1 31/32 x 1½ x 7 13/32	Snap	10.90	7.27
413	30	1½ x 5/8 x 2 9/16	Flat	2.75	1.84	482	45	3 1/32 x 1 27/32 x 5½	Socket	14.90	9.94
415	45	1 3/64 x 5/8 x 3 1/16	Snap◊	4.10	2.73	484	45	3 3/32 x 2 1/32 x 5 5/16	Socket	17.00	11.32
416	67½	1 21/64 x 6 3/64 x 3½	Snap◊	5.90	3.94	487	45	5 1/8 x 2 1/16 x 7 1/4	Socket	18.00	12.00
417	15	1 15/16 x 3 1/32 x 1 5/16	Flat	8.90	5.93	490	90	3 23/32 x 1 3/8 x 3 45/64	Snap	13.90	9.27
420	22½	1 5/16 x 3 1/32 x 2 3/16	Flat	11.00	7.33	504	15	3 9/64 x 1 9/32 x 1 3/8	Flat	3.10	2.07
455	45	2 21/32 x 1 x 3 11/16	Snap	8.30	5.53	505	22½	1 9/32 x 1 9/32 x 1.975	Flat	3.95	2.63
457	67½	2 13/16 x 1 3/8 x 2 1/2	Snap	14.20	9.46	738	45	3 x 2 5/16 x 4 1/8	Socket	9.90	6.59
467	67½	2 13/16 x 1 5/8 x 3 45/64	Snap	11.20	7.47						

"A" BATTERIES FOR PORTABLE RECEIVERS

717	7½	2 5/32 x 1 15/16 x 3 1/32	Socket	$4.90	$3.27	742	1½	2 5/8 x 2 5/8 x 3 27/32	Socket	$4.10	$2.73
724	6	1 7/32 x 1 7/32 x 2 1/32	Flat	3.80	2.53	744	6	2 5/8 x 2 5/8 x 3 27/32	Socket	3.70	2.46
736	4½	3 1/16 x 1 5/16 x 4	Socket	6.70	4.47	1035§	C	1 1/32 dia. x 1 15/16	Flat	.50	.31
						1050§	D	1 11/32 dia. x 2 1/32	Flat	.50	.31

Our Stocks are Complete and up to date.

Write for information on new or unlisted items.

EVEREADY® Batteries

SPECIAL BATTERY TYPES FOR RADIOS, ELECTRONIC EQUIPMENT, PHOTOFLASH AND OTHER APPLICATIONS

Ever-eady" No.	Voltage or Size	Overall Dimensions, Inches L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
(30†	3	.955 dia. x .480	Flat Contacts−,+3	0.5 oz.	6	$ 2.60	$ 1.74
(30BP^	3	.955 dia. x .480	Flat Contacts−,+3	0.5 oz.	6	2.60	1.75
†	C	1 1/32 dia. x 1 15/16	Flat Contacts−,+1 1/2	1.4 oz.	6	1.25	.84
†	D	1 1/32 dia. x 2 13/32	Flat Contacts−,+1 1/2	3.3 oz.	6	1.25	.84
P	22 1/2	1 23/64 x 1 1/32 x 3 15/16	Socket−,+22 1/2	4.1 oz.	1	10.90	7.27
K‡	45	1 57/64 x 1 3/8 x 2.43	Flat Contacts−,+45	5.3 oz.	1	13.95	9.30
	225	4 1/32 x 2 1/16 x 4 3/16	Socket−,+225	2 lb. 12 oz.	2	37.95	25.31
	240	2 13/32 x 1 5/16 x 4 1/2	Flat Recessed & Socket−,+240	13 oz.	1	18.35	12.24
	300	2 1/16 x 2 7/32 x 3 23/32	Pinjacks−,+300	14.5 oz.	1	23.95	15.97
	450	6 3/4 x 3 x 5	Socket−,+450	5 lb. 4 oz.	1	97.95	65.33
	510	3 x 1 13/32 x 5 3/8	Flat Recessed−,+180,+510	1 lb. 10 oz.	1	31.95	21.89
BP-2	AAA	1 3/32 dia. x 1 3/4	Flat Contacts−,+1.5	0.3 oz.	12	.70	.465
BP-2	AA	3/8 dia. x 1 31/32	Flat Contacts−,+1.5	0.6 oz.	24	.70	.465
(825†§	1.5	.905 dia. x .228	Flat Contacts−,+1.5	0.026 oz.	24	1.30	.87

CARBON-ZINC LANTERN AND FLASHER BATTERIES

Ever-eady" No.	Volt-age /Size	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit *
	45	3 31/32 x 2 17/32 x 5 5/16	1	$17.00	$11.32
	6	2 5/8 x 2 5/8 x 4 13/32	1	2.75	1.83
S	6	2 5/8 x 2 5/8 x 4 5/16	1	3.15	2.10
†	6	5 17/32 x 4 21/32 x 2 21/32	1	18.00	12.00
	69	2 5/16 x 2 1/4 x 8 7/64	2	19.50	13.00
	6	5 11/32 x 2 27/32 x 4 15/16	1	7.45	4.96
	12	5 11/32 x 2 27/32 x 4 15/16	1	10.40	6.94
4N	6	2 5/8 x 2 5/8 x 3 27/32	1	3.10	2.06
0N	12	5 11/32 x 2 27/32 x 4 5/32	1	16.50	11.00

CARBON-ZINC NO. 6 AND "HOT SHOT"® BATTERIES

6††	1 1/2	2 5/8 dia. x 6 17/32	1	$ 5.38	$ 3.59
SF■■	1 1/2	2 5/8 dia. x 6 3/4	1	5.38	3.59
SFT♦♦	1 1/2	2 5/8 dia. x 6 3/4	1	5.38	3.59
SST♦♦	1 1/2	2 5/8 dia. x 6 17/32	1	5.38	3.59
**	1 1/2	2 5/8 dia. x 6 5/8	1	5.58	3.72
**	1 1/2	2 5/8 dia. x 6 5/8	1	5.58	3.72
1••	6	10 7/16 x 2 23/32 x 7 7/32	1	17.50	11.67
3••	12	10 7/16 x 2 23/32 x 7 7/32	1	30.90	20.61
2••	7 1/2	7 27/32 x 4 31/32 x 7 7/32	1	27.00	18.01
2••	12	10 1/4 x 5 1/4 x 6 3/8	1	39.90	26.61

RBON-ZINC SPECIAL LIGHTING AND HOBBY BATTERIES

	6	8 1/16 x 2 13/16 x 6 7/16	1	$19.50	$13.00
	F	2 5/8 x 1 5/16 x 4 1/32	1	4.80	3.20
	7 1/2	7 1/4 x 4 1/16 x 6 7/16	1	19.30	12.87
	9	8 37/64 x 4 1/16 x 6 7/16	1	21.20	14.15
	1 1/2	2 5/8 x 2 5/8 x 4 5/16	1	3.30	2.20

SPECIAL BATTERIES FOR RADIOS, ELECTRONIC EQUIPMENT, TEST INSTRUMENTS, AND OTHER APPLICATIONS

"Ever-eady" No.	Volt-age /Size	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
W353	1 1/2	2 13/32 x 1 3/8 x 4 5/32	1	$ 4.50	$3.00
W356	3	2 5/8 x 2 5/8 x 4 5/16	1	13.30	8.87
W357	3	3 25/32 x 2 1/16 x 5 13/16	1	10.90	7.27

FLASHLIGHT BATTERIES—FOR TOYS, GAMES, ETC.

904•	N	0.455 dia. x 1.180	6	$0.30	$0.195
912§	AAA	1 3/32 dia. x 1 3/4	12	.35	.2275
915§	AA	3/8 dia. x 1 31/32	24	.35	.2275
935^	C	1 1/32 dia. x 1 15/16	24	.45	.2925
935-2	C	1 1/32 dia. x 1 15/16	24	.90	.585
935-4	C	1 1/32 dia. x 1 15/16	18	1.49	.9925
950^	D	1 11/32 dia. x 2 13/32	48	.45	.2925
950-2	D	1 11/32 dia. x 2 13/32	24	.90	.585
950-4	D	1 11/32 dia. x 2 13/32	18	1.49	.9925
1150§	D	1 11/32 dia. x 2 13/32	48	##	##

HEAVY DUTY BATTERIES

1209	6	2 5/8 x 2 5/8 x 4 11/32	1	$3.75	$2.35
1215	1 1/2	3/8 dia. x 1 31/32	24	.50	.3125
1215BP-2^	1 1/2	3/8 dia. x 1 31/32	12	1.00	.635
1215BP-4^	1 1/2	3/8 dia. x 1 31/32	12	2.00	1.26
1222	9	1 15/32 x 1 1/16 x 1 15/16	12	1.59	1.00
1222BP^	9	1 1/32 x 1 1/16 x 1 15/16	12	1.59	1.01
1222BP-2^	9	1 1/32 x 1 1/16 x 1 15/16	12	2.29	1.49
1235-2	1 1/2	1 1/32 dia. x 1 15/16	24	1.30	.805
1235BP-2^	1 1/2	1 1/32 dia. x 1 15/16	12	1.30	.815
1250-2	1 1/2	1 11/32 dia. x 2 13/32	24	1.30	.805
1250BP-2^	1 1/2	1 11/32 dia. x 2 13/32	12	1.30	.815

CARBON-ZINC INSTRUMENT BATTERIES

714	4 1/2	3 31/32 x 1 11/32 x 3 3/4	1	$13.00	$ 8.67
750	3	1 1/32 x 3/8 x 2 21/32	1	5.00	3.33
762S	45	4 3/32 x 2 9/16 x 5 7/16	1	19.91	13.28
763	22 1/2	3 1/2 x 2 3/32 x 3 1/16	1	8.60	5.73

No. 07867 Cable—List Ea..... **$3.19**; Net Ea..... **$1.98***

liver chem. system. †Alkaline. ‡For electric clocks. #Includes one No. 460 battery and one No. 428 lamp. §Available in Blister Pack of 2. vailable in Blister Pack of 4. *In unit pkg. of 1. ■In unit pkg. of 6. ♦In unit pkg. of 24. ‡In unit pkg. of 48. ♦Miniature. **Ignitor®. purpose 6: IS6=screw terms.; IF6, Fahnstock. ##**Prices on Request.** ••Hot Shot. ■■Fahnstock terms. ^Blister pack. ♦♦Wire−, hnstock clips.

PREMIUM SERVICE ALKALINE BATTERIES FOR RADIO, PHOTOFLASH, TOYS, HIGH DRAIN ELECTRONIC APPLICATIONS

Ever-eady" No.	Volt-age	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
X30	3.0	.960 dia. x .485	6	$2.60	$1.74
9	1.5	.563 dia. x 1.087	2	2.48	1.62
0†	1.5	.470 dia. x 1.13	12	1.00	.65
BP-2^	1.5	.470 dia. x 1.13	6	2.00	1.31
†‡	1.5	3/8 dia. x 1 31/32	24	1.00	.65
BP-2^	1.5	3/8 dia. x 1 31/32	12	2.00	1.31
BP-4^	1.5	3/8 dia. x 1 31/32	12	3.80	2.48
2†	1.5	.410 dia. x 1.745	12	1.00	.65
BP-2^	1.5	.410 dia. x 1.745	12	2.00	1.31
3†	1.5	1 1/32 dia. x 1 15/16	12	1.30	.845
BP-2^	1.5	1 1/32 dia. x 1 15/16	12	2.60	1.69
5†	1.5	1 11/32 dia. x 2 13/32	12	1.30	.845
BP-2^	1.5	1 11/32 dia. x 2 13/32	12	2.60	1.69

"Ever-eady" No.	Volt-age	Overall Dimensions, Inches L. x W. x H.	Unit Pkg. Qty.	List Price Each	Net Ea. In Unit Pkg.
522BP^	9.0	1 1/32 x 1 1/16 x 1 1/4	12	$2.60	$1.69
523	4.5	.662 dia. x 1.965	1	2.95	1.97
523BP^	4.5	.662 dia. x 1.965	6	2.95	1.98
531§	4.5	.662 dia. x 2.290	6	2.95	1.97
531BP^	4.5	.662 dia. x 2.290	1	2.95	1.98
532§	3.0	.664 dia. x 1.670	1	2.75	1.84
532BP^	3.0	.664 dia. x 1.670	1	2.75	1.85
538§	4.5	1.60 x .670 x .450	1	3.50	2.34
538BP^	4.5	1.60 x .670 x .450	1	3.50	2.35
539BP^	6.0	1.4 x .355 x 1.898	6	3.00	2.01
EPX825	1.5	.905 dia. x .228	24	1.30	.87

WATCH AND CALCULATOR BATTERIES—TEAR-STRIP PACKAGING

Ever-eady" No.	Chemical System	Volts	Unit Pkg. Qty.	List Price Each	Net Each
201	Silver Oxide	1.5	5	$5.50	$3.44
301	Silver Oxide	1.5	5	2.60	1.56
303	Silver Oxide	1.5	5	3.10	1.86
309	Silver Oxide	1.5	5	2.35	1.41
313	Mercury	1.35	5	2.05	1.23
323	Mercury	1.35	5	1.60	.96
325	Mercury	1.35	5	2.05	1.23
343	Mercury	1.35	5	1.60	.96
344	Silver Oxide	1.5	5	2.60	1.56
350	Silver Oxide	1.5	5	2.70	1.62
354	Mercury	1.35	5	2.05	1.23
355	Silver Oxide	1.5	5	5.00	3.00
357	Silver Oxide	1.5	5	3.10	1.86
362	Silver Oxide	1.5	5	1.95	1.17
384	Silver Oxide	1.5	5	1.70	1.02

"Ever-eady" No.	Chemical System	Volts	Unit Pkg. Qty.	List Price Each	Net Each
381	Silver Oxide	1.5	5	$1.95	$1.17
386	Silver Oxide	1.5	5	2.40	1.44
387	Mercury	1.35	5	2.50	1.56
388	Mercury	1.35	5	2.05	1.23
389	Silver Oxide	1.5	5	2.10	1.26
390	Silver Oxide	1.5	5	2.35	1.41
391	Silver Oxide	1.5	5	1.90	1.14
392	Silver Oxide	1.5	5	1.45	.87
393	Silver Oxide	1.5	5	2.10	1.26
394	Silver Oxide	1.5	5	2.20	1.32
395	Silver Oxide	1.5	5	2.05	1.23
396	Silver Oxide	1.5	5	2.00	1.20
397	Silver Oxide	1.5	5	2.05	1.23
399	Silver Oxide	1.5	5	2.00	1.20

EVEREADY® Batteries

MERCURY AND SILVER OXIDE BATTERIES FOR RADIO, ELECTRONIC AND INDUSTRIAL APPLICATIONS

"Eveready" No.	Voltage	Overall Dimensions, Inches L. x W. x H.	Terminals and Voltages	Battery Weight	Unit Pkg. Qty.	List Price Each	Net Each in Unit Pkg.
E1†	1.4	.625 dia. x .645	Flat Contacts −, +1.4	0.43 oz.	4	$ 2.20	$ 1.46
E1N†	1.35	.625 dia. x .645	Flat Contacts −, +1.35	0.43 oz.	4	2.40	1.57
EPX1BP▲	1.35	.625 dia. x .650	Flat Contacts −, +1.35	0.43 oz.	6	2.30	1.54
E4†	1.35	1.195 dia. x .660	Flat Contacts −, +1.35	1.6 oz.	4	4.70	3.14
E9†	1.4	.550 dia. x 1.968	Flat Contacts −, +1.4	1.05 oz.	4	3.00	2.00
E12†	1.4	.640 dia. x 1.968	Flat Contacts −, +1.4	1.4 oz.	2	4.50	3.00
E12N†	1.35	.625 dia. x 1.963	Flat Contacts −, +1.35	1.4 oz.	2	5.00	3.34
EPX13BP	1.35	.615 dia. x .238	Flat Contacts −, +1.35	0.14 oz.	6	2.00	1.33
E13E-6	1.4	.310 dia. x .210	Flat Contacts −, +1.4	0.04 oz.	1	3.24	2.16
S13E-6	1.5	.310 dia. x .210	Flat Contacts −, +1.5	0.04 oz.	1	7.20	4.80
S13E-6BP▲	1.5	.310 dia. x .210	Flat Contacts −, +1.5	0.04 oz.	1	7.24	4.83
EPX14BP	2.7	.655 dia. x .607	Flat Contacts −, +2.7	0.3 oz.	6	3.60	2.41
EPX23BP	5.4	.600 dia. x .787	Flat Contacts −, +5.6	0.12 oz.	6	2.20	1.47
EPX25BP	4.05	.660 dia. x .845	Flat Contacts −, +4.05	0.45 oz.	6	4.40	2.95
E41E-6	1.4	.455 dia. x .162	Flat Contacts −, +1.4	0.07 oz.	1	3.36	2.24
S41E-6♦	1.5	.455 dia. x .162	Flat Contacts −, +1.5	0.07 oz.	1	9.00	6.00
S41E-6BP▲♦	1.5	.455 dia. x .162	Flat Contacts −, +1.5	0.06 oz.	1	9.04	6.03
E42N‡	1.35	1.195 dia. x 2.390	Flat Contacts −, +1.5	5.85 oz.	1	10.50	6.98
S76E-6♦	1.5	.455 dia. x .211	Flat Contacts −, +1.5	0.08 oz.	1	12.00	8.00
S76E-6BP▲♦	1.5	.455 dia. x .211	Flat Contacts −, +1.5	0.08 oz.	1	12.04	8.03
E126†	8.4	.744 dia. x 2	Flat Contacts −, +8.4	1.65 oz.	6	6.50	4.34
E132†	2.8	.661 dia. x 1.315	Flat Contacts −, +2.8	0.94 oz.	2	3.08	2.05
E132N†	2.7	.662 dia. x 1.295	Flat Contacts −, +2.7	0.95 oz.	2	4.30	2.81
E133†	4.2	.661 dia. x 1.965	Flat Contacts −, +4.2	1.42 oz.	6	5.90	3.94
E133N†	4.05	.662 dia. x 1.945	Flat Contacts −, +4.05	1.42 oz.	2	6.30	4.20
E134†	5.6	.661 dia. x 2.615	Flat Contacts −, +5.6	1.89 oz.	2	5.30	3.54
E134N†	5.4	.662 dia. x 2.595	Flat Contacts −, +5.4	1.89 oz.	2	6.60	4.41
E135N†	6.75	.662 dia. x 3.245	Flat Contacts −, +6.75	2.37 oz.	2	8.00	5.32
E136†	8.4	.661 dia. x 3.915	Flat Contacts −, +8.4	2.86 oz.	2	7.20	4.76
E146X	8.4	1.031 x .660 x 1¼	Min. Snap −, +8.4	1.6 oz.	6	5.70	3.80
E164†	5.6	.661 dia. x 1.767	Flat Contacts −, +5.6	1.2 oz.	6	4.40	2.94
E164N†	5.4	.662 dia. x 1.743	Flat Contacts −, +5.4	1.2 oz.	2	6.30	4.21
E165†	7.0	.661 dia. x 2.207	Flat Contacts −, +7	1.5 oz.	2	6.40	4.27
EP175†	7.0	½ dia. x 1¾₃₂	Flat Contacts −, +7	1 oz.	1	4.00	2.66
E177	9.0	¾₄ dia. x 1²⁷⁄₃₂	Min. Snap −, +9.0	0.8 oz.	1	5.70	3.80
E286	8.4	1 dia. x 1¹¹⁄₁₆	Flat Contacts −, +8.4	1.6 oz.	1	7.60	5.07
E289	12.6	1 dia. x 2¹³⁄₃₂	Snap Type −, +12.6	3.6 oz.	6	10.10	6.74
301BP	1.5	.455 dia. x .155	Flat Contacts −, +1.5	0.06 oz.	1	2.60	1.56
303BP▲♦	1.5	.455 dia. x .220	Flat Contacts −, +1.5	0.09 oz.	6	3.10	1.86
E312E-6	1.4	.310 dia. x .140	Flat Contacts −, +1.4	0.03 oz.	6	3.36	2.24
S312E-6	1.5	.310 dia. x .140	Flat Contacts −, +1.5	0.03 oz.	1	6.00	4.00
323BP▲	1.35	.310 dia. x .210	Flat Contacts −, +1.35	0.05 oz.	1	1.60	.96
343BP▲	1.35	.455 dia. x .138	Flat Contacts −, +1.35	0.05 oz.	6	1.60	.96
357BP▲♦	1.5	.455 dia. x .211	Flat Contacts −, +1.5	0.08 oz.	6	3.10	1.86
381BP▲♦	1.5	.....	Flat Contacts −, +1.5	0.06 oz.	6	1.95	1.17
386BP▲♦	1.5	.455 dia. x .165	Flat Contacts −, +1.5	0.06 oz.	6	2.40	1.44
389BP▲	1.5	.455 dia. x .118	Flat Contacts −, +1.5	0.05 oz.	6	2.10	1.26
391BP▲♦	1.5	.....	Flat Contacts −, +1.5	0.06 oz.	6	1.90	1.14
392BP▲♦	1.5	.310 dia. x .140	Flat Contacts −, +1.5	0.02 oz.	6	1.45	.87
393BP▲♦	1.5	.310 dia. x .210	Flat Contacts −, +1.5	.04 oz.	6	2.10	1.26
E400NBP▲	1.35	.455 dia. x .135	Flat Contacts −, +1.35	0.04 oz.	6	2.00	1.33
E401-E2‡	1.4	.455 dia. x 1.130	Flat Contacts −, +1.4	0.4 oz.	2	2.56	1.71
EP401E-2‡	1.4	0.453 dia. x 1.140	Flat Contacts −, +1.4	.44 oz.	2	2.96	1.97
E401N†	1.35	.470 dia. x 1.130	Flat Contacts −, +1.35	0.42 oz.	2	2.60	1.73
E431BP	11.2	1.030 dia. x 3.200	Snap Type −, +11.2	4.1 oz.	6	8.94	5.95
544BP▲♦	6.0	.510 dia. x .990	Flat Contacts −, +6.0	0.5 oz.	6	9.90	6.60
E575E	1.4	.455 dia. x .138	Flat Contacts −, +1.4	0.05 oz.	6	.66	.44
E601†	1.35	.627 dia. x 1.140	Flat Contacts −, +1.35	1.22 oz.	2	3.30	2.20
E625†	1.4	.615 dia. x 0.238	Flat Contacts −, +1.4	0.15 oz.	4	1.44	.96
EPX625BP▲	1.35	.615 dia. x 0.238	Flat Contacts −, +1.4	0.15 oz.	6	2.00	1.33
E630†	1.4	.615 dia. x 0.238	Flat Contacts −, +1.4	0.17 oz.	4	1.60	1.07
E640†	1.4	.625 dia. x 0.440	Flat Contacts −, +1.4	0.28 oz.	2	2.00	1.33
EPX640BP▲	1.35	.625 dia. x 0.440	Flat Contacts −, +1.35	0.13 oz.	6	2.20	1.47
EPX675BP▲	1.35	.455 dia. x 0.205	Flat Contacts −, +1.35	0.09 oz.	6	2.00	1.33
E675E-6	1.4	.455 dia. x .210	Flat Contacts −, +1.4	0.09 oz.	1	3.24	2.16
EP675E-6BP▲	1.4	.455 dia. x .210	Flat Contacts −, +1.4	0.09 oz.	1	3.40	2.27
E304116BP	12.6	1.030 dia. x 3.200	Snap Type −, +12.6	4.5 oz.	6	8.94	5.95

Available at extra cost: †½" steel tab connectors for solder/weld; ‡Blister pack of 2; ▲Blister pack. ♦Silver oxide.

HERCULES INDUSTRIAL BATTERIES—PRICES ON REQUEST

"Hercules" No.	Voltage or Size	Terminals or Contacts	Unit Pkg. Qty.	Std. Pkg. Qty.
HS6	#6	Screw Terminals	1	12
HS10S	6 V	Screw Terminals	1	12
HS15	AA	Flat Contacts	24	192
HS31	6 V	Knurl Nut & Screw	1	6
HS35	C	Flat Contacts	24	192

"Hercules" No.	Voltage or Size	Terminals or Contacts	Unit Pkg. Qty.	Std. Pkg. Qty.
HS50	D	Flat Contacts	24	192
HS90	6 V	Spring Terminals	1	25
HS95	D	Flat Contacts	12	72
HS150	D	Flat Contacts	24	192

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.
ASK ABOUT NEW OR UNLISTED ITEMS.

Globe Battery Division

JOHNSON CONTROLS

gel/cell® RECHARGEABLE BATTERIES, BATTERY PACKS, CHARGERS

COMPLETELY SEALED, RECHARGEABLE GEL/CELL BATTERIES FOR LONG LIFE, COMPACTNESS, HIGH POWER-TO-SIZE RATIO



Small, but powerful rechargeable batteries feature exclusive gelled electrolyte held permanently between plates and sealed in polystyrene cases. Compact and long-lasting battery contains no liquid to splash around or ooze out. Can be operated, stored or charged in any position, even upside down. Compact sizes for every application including many mini-sizes with a high power-to-weight ratio. Ideal for building into transportable equipment such as tape recorders, TV sets, medical apparatus and test instruments. Completely maintenance free, install it and forget it. Uniquely suited to operate lighting, security and supervisory systems in the event of commercial power outage. No need to check liquid levels, water or electrolyte is never added. Battery can be recharged again and again, up to 500 or more charge/discharge cycles. If not completely discharged during each cycle, 1000 or more cycles of operation are possible. Special lead-calcium grids assure long shelf life, very little capacity loss when in storage. Self discharge is only 2% to 3% per month. Reliable lead dioxide system eliminates danger of permanent cell reversal and resulting loss of ability to recharge, provides years of dependable service. Protective self-sealing relief valves prevent excessive cell pressure build-up if batteries are accidentally over-charged. Battery is not affected by memory or previous use history, accepts a full charge time after time and delivers full power when you want it. Batteries may be connected in series to obtain any multiple of 2 volts or in parallel for other than standard capacities. Wide operating temperature range. Gel/Cells can be used in tropical or frigid climates. A fully charged Gel/Cell will operate over a temperature range of −76° F to +140° F. Gel/Cells are rated at 77° F. Their capacities increase above 77° F and decrease below 77° F. Durable, high impact, polystyrene case is non-conductive, will not rust or deteriorate.

lobe art mber*	Nom. Volts	Capacity In Amp Hrs. at 20 Hr. Rate	20 Hr. Rate, mA	Max. Cont. Cur. (Amps) with Std. Terminals	Int. Res., Milliohms	Watt Hours per Lb.	Watt Hours per Cu. Inch	Size, Inches W.	D.	H.	Wt., Lbs.	Net Each
0-1	2	7.5	375	80	6	14.9	1.1	2.06	1.97	3.97	1.1	$15.50
0-4	4	.9	45	40	60	10.9	.89	1.65	1.36	2.00	.37	13.50
6-1	4	2.6	130	60	47	12.1	.92	3.54	1.33	2.63	.86	15.60
0-1	6	.9	45	40	90	10.9	.9	2.00	1.65	2.24	.55	15.70
0-1	6	1.8	90	80	50	12.4	.94	2.95	2.00	2.36	.97	19.90
6-1	6	2.6	130	60	70	12.1	.92	5.28	1.33	2.63	1.34	18.20
6-2	6	2.6	130	60	70	12.1	.92	5.28	1.33	2.40	1.34	18.20
5-1	6	4.5	225	80	30	11.3	.93	5.92	1.33	3.90	2.4	23.80
0-1	6	6.0	300	80	25	14.0	1.1	4.57	1.99	3.81	2.6	24.88
5-7	6	6.5	325	50	27	11.5	.80	4.30	2.80	4.20	3.4	19.70
0-1	6	7.5	375	80	20	14.5	1.1	5.96	1.97	3.97	3.3	26.50
0-7	6	9.0	450	50	18	....	....	4.25	2.78	5.60	4.1	24.75
00-7	6	10.0	500	50	18	12.0	.90	4.28	2.78	5.60	5.0	25.10
20-7	6	12.0	600	50	15	13.1	1.10	4.28	2.78	5.60	5.5	28.00
00-5	6	20.0	1,000	200	9	14.1	1.2	7.0	3.42	5.25	8.5	49.40
6-1	8	2.6	130	60	70	12.0	.93	7.00	1.31	2.64	1.75	25.70
15-1	12	1.5	75	35	150	12.0	.81	7.02	1.33	2.58	1.5	30.10
45-1	12	4.5	225	80	60	12.0	.96	5.95	2.52	4.02	4.5	34.00
60	12	6.0	300	80	80	12.0	.95	5.96	3.16	3.98	5.7	42.50
	12	28.0	1,400	500	10	....	....	7.75	5.19	7.36	21.0	73.70

minal style indicated by last digit:
ual Purpose—Solder-Lug/Tab Type, .187″ w. x .032″ thick.
isplaced Flat Button—Interchanges with 4 "D" size batteries.
4 = Solder Lug—.120″ w. x .030″ thick.
5 = ¼″-20 stud. 7 = .187″ Quick Disconnect.
GC6200 Terminals—¼ x 20 threaded brass stud with wing nuts supplied.

RECHARGEABLE BATTERY PACKS

ed, portable power supply provides a great source of power attery-operated equipment. Gives you dependable electrical r anywhere, indoors or out. Use it on camping, fishing and r trips to power a portable radio, TV set, tape recorder, n and fish finders, boat running lights, camp and emergency s. Provides plenty of power for portable tools, communications pment, test instruments, public addresses. Operates simply onnecting appliance to the power pack using a standard nobile cigarette lighter appliance plug. Any 12 volt or 14 volt ance designed to operate from automobile cigarette lighters be plugged directly into the power pack. Absolutely safe, ates efficiently in any position and is not harmed by extremes mperature. Battery pack is easily recharged by self-contained charger which inserts into battery pack and plugs into standard wall outlet. Pays for itself many times over by letting you save on batteries. Charging time for 12-volt battery pack is 16–20 hours for complete charge; 18–24 hours for 14-volt battery pack. Temperature range, −76° F to +140° F. With handsome carrying case, shoulder strap, and self-contained battery charger.

lobe art lo.	Nom. Volts	Ampere-Hours (20 Hr. Rating)	Size, Inches W.	D.	H.	Wt., Lbs.	Net Each
1245	12	4.5	8¼	2⅞	6½	6	$64.00
1260	12	6.0	4¼	4¼	6¼	7	72.50
1200	12	7.5	6¼	4¼	6¼	8	83.00
1290	12	9.0	3¼	9 3/16	8¾	11	74.60
12120	12	12.0	8¼	3⅞	9	13	86.00
1426	14	2.6	6¼	2⅞	6½	4.5	78.80
1400	14	7.5	6¼	4¼	6¼	9.2	98.50



BATTERY CHARGERS



to use, low cost charger provides choice of two well regulated ut voltages. Panel switch selects "fast" or "float" voltage. fast" mode a fully discharged battery is recharged in 12 to 16 s, or less; in "float" mode, 36 hours, or less. In either model batteries can be brought to 75–80% of full charge in half the time. With switch in "float" position, batteries may be left on charge continuously. Indicating lamp stays on during charge, begins to glow dimly and goes out when battery is approximately 90% charged (50% on float setting). Protected from momentary shorts and reversed polarity. Chargers with 350 mA outputs recommended for batteries up to 3 ampere hour rating; 750 mA chargers for larger batteries or when charging smaller batteries in parallel. Black Bakelite* case with aluminum top panel. Size, 5⅞″ w. x 3⅛″ d. x 2¾″ h. Weight, 2 lbs. *Reg. Bakelite Corp. TM.

Globe Part No.	Nom. Output	End of Charge Voltage Fast	Float	For use with Battery Nos.	Net Each
GRC6350M	350 mA	7.2 ± .2 V	6.9 ± .1 V	610, 620, 626	$40.85
GRC6750M	750 mA	7.2 ± .2 V	6.9 ± .1 V	645, 660, 680	40.85
GRC12350M	350 mA	14.6 ± .2 V	13.8 ± .1 V	1215	40.85
GRC12750M	750 mA	14.6 ± .2 V	13.8 ± .1 V	1245	45.80

KEYSTONE

ALUMINUM BATTERY HOLDERS, CLIPS AND HARDWAR

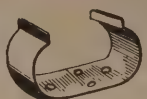

69, 70, 71, 79


90, 91


80, 93, 94, 95


217, 218, 219


78


97, 98

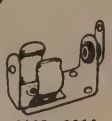

61, 62, 63, 66


106, 109, 110, 119, 121, 122, 124, 132, 134, 137, 139, 154, 160, 164, 168, 173, 175, 179, 189, 225


170, 182, 182A


163, 166, 177, 183

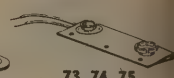

101, 103, 104, 111, 118, 126


1113, 1114


112, 117


59


68, 72


73, 74, 75, 76, 77, 83

Keystone battery holders feature engineered snap clips, moisture-proof fiber washers, spring-temper aluminum alloy, nickel-plated brass eyelets. Coated terminals for easy soldering. Mounting holes on all holders. PC and quick-disconnect lugs available on special order.

STANDARD BATTERY, CELL HOLDERS

All batteries as grouped are similar in size and fit all holders listed alongside.

MINIATURE CELL HOLDERS

Keystone No.	Holds Cells	NEDA	Used with Mfr's Types: Eveready	Burgess	RCA	Net Each, Lots of: 1-19	20-99
137	1					$0.39	$0.34
138	2					.58	.52
169	3	24	912	7	VS074	.85	.79
170	4					.98	.87

PENCELL HOLDERS

139	1		E9, E12	Z, CD6		$0.35	$0.31
140	2		E91	9R		.62	.55
171	3	15	E133	HG9	VS034A	.77	.70
182	4	15A	333	HG12R	VS144	.98	.87
189	2	1103	E502	H133	VS149	.70	.56
192	4	1107	515	HG502	VS313A	.98	.83
193	6		915, 1015	920	VS334	1.35	1.21
			N46	930			

"C" CELL HOLDERS

173	1					$0.47	$0.41
174	2		226	1		.61	.55
187	3	14	E233	P6	VS035A	.91	.87
185	2	1300	635	120	VS300	.70	.56
196	4	1600	935	130	VS335	.98	.83
197	6		1035	H233	VS400	1.35	1.21
			E93	302599			

"D" CELL HOLDERS

175	1					$0.47	$0.41
176	2		E42			.70	.62
190	3		E95	2		1.00	.92
186	2		D99	2R	VS036A	.70	.56
200	4	13	A100	CD7	VS036	1.01	.85
201	6		N56	210	VS336	1.40	1.28
205	6		950	230		1.27	1.16
			1050				

1½-VOLT CELL HOLDERS

154	1					$0.32	$0.31
155	2	910	E340	N	VS073	.55	.50
156	3		904			.76	.67
160	1	20	964	21R	VS236	.76	.67
179	1	927	E94			.47	.41

4½-VOLT CELL HOLDER

139B	1	1306	333		VS1149	$0.50	$0.47

9-VOLT CELL HOLDERS

139A	1	1611	206		VS327	$0.41	$0.37
203P	1	1604	216	2U6	VS323	.68	.56
173P	1	1600	226	P6M	VS300A	.48	.45

15-VOLT BATTERY HOLDERS

163	1	224	417	K10		$0.47	$0.41
161	1					.47	.41
166	1	208	411	U10	VS083	.47	.41
167	2					.58	.52
225	1	220	504	Y10		.31	.29
226	2					.52	.47

22½-VOLT BATTERY HOLDERS

164	1	225		K15		$0.47	$0.41
168	1		420			.47	.41
177	1	215	412	U15	VS084	.47	.41
178	2					.58	.52
139A	1					.41	.37
140A	2	221	505	Y15		.69	.63
171A	3					.80	.73
182A	4					1.00	.89

30-VOLT BATTERY HOLDERS

165	1	226	430	K20		$0.47	$0.41
183	1	210	413	U20	VS085	.47	.41
184	2					.58	.52
157	1	223	506	Y20		.47	.41
134	1	222	507	Y20S		.58	.52

BATTERY AND COMPONENT HOLDERS

Two #40 mtg. holes spaced .437" unless otherwise noted.

Keystone No.	Holds Bat. Size, Inches	For Cells†	Dim., In. Lgth. ±.005"	Dim., In. Width ±.015"	Net per 100	Net per 100
69*†	.562 dia. (2)	(2) AA	.625	1.125	$6.60	$56.
70‡	.656 dia. (2)	(2)RM12	.625	1.343	8.80	77.
71*	.593 x 1.031	2U6	.625	1.031	6.60	59.
78*§	1.187 to 1.350	D	.500	.562	6.05	55.
79*‡	.650 x 1.280	T 146 X	.625	1.050	6.60	59.
80*	.650 x 1.280	T 146 X	.625	.675	7.15	59.
90	.375 to .468	AAA	.625	.312	4.40	26.
91	.531 to .656	AA	.625	.406	4.40	30.
93	.875 to 1.125	C	.625	.937	5.50	48.
94	1.187 to 1.375	D	.625	1.250	6.60	53.
95	.625 x 1.00	U-15	.625	.656	5.50	48.
97	1.031 dia. (2)	(2) C	.625	2.062	11.45	94.
98#†	1.312 dia. (2)	(2) D	1.000	2.656	14.30	107.
217*•	1.375 to 1.500	NI-CAD	.812	1.218	.18	143.
218*•	1.437 to 1.687	NI-CAD	.812	1.375	.19	150.
219*•	2.000 to 2.500	NI-CAD	.812	1.687	.20	165.

*Carbon steel clips, SAE 1065 per MIL-S-17919#4, heat trea to spring temper, nickel-plate finish; all others, aluminum QQ-A-362, no finish. †Clips can hold batteries or compone of similar dia. ‡Four #40 mtg. holes spaced .625" x .437". §Sin #29 mtg. hole. #Four #40 mtg. holes spaced 1.125" x .4 •Single #22 mtg. hole.

MERCURY BATTERY HOLDERS

Aluminum base and clips with copper, cadmium plated termin Contact eyelets of brass NP. Resin impregnated fiber insulat washers.

Keystone No.	Duracell Batteries	Net Each, Lots of: 1-19	20-99	Keystone No.	Duracell Batteries	Net Each Lots of: 1-19	20-
101*	RM 1R	$0.50	$0.44	1132†	TR 176	$0.50	$0.
103*	RM 3R	52	.46	1142†	TR 177	.36	.
104*	RM 4R	.53	.47	173	TR 233	.47	.
139	ZM 9	.35	.31	1144†	TR 234	.36	.
139	RM 12R	.35	.31	1133†	TR 235	.56	.
175	RM 42	.47	.41	185	TR 236	.70	.
1113†	TR 113	.50	.43	111*	RM 400	.50	.
1114†	TR 114	.50	.43	124	RM 401	.35	.
132	TR 115	.47	.41	166	RM 411	.47	.
139A	TR 126	.41	.37	177	RM 412	.47	.
132	TR 132	.47	.41	183	RM 413	.47	.
139	TR 133	.35	.31	112*	RM 450	.50	.
134	TR 134	.58	.52	139	RM 502	.35	.
135	TR 135	.58	.52	1116†	RM 601	.50	.
189	TR 136	.70	.56	117*	RM 625	.50	.
1125†	TR 137	.50	.43	126*	RM 630	.50	.
1145†	TR 145	.50	.43	118*	RM 640	.50	.
124	TR 152	.35	.31	127*	RM 675	.50	.
106	TR 153	.47	.41	119	302351	.58	.
1113†	TR 162	.50	.43	120	302478	.58	.
132	TR 163	.47	.41	121	302642	.58	.
109	TR 164	.47	.41	122	302435	.58	.
110	TR 165	.58	.52	139	302437	.35	.
189	TR 169	.70	.56	173	302599	.47	.
124	TR 175	.35	.31				

*Available with phosphor bronze spring, phenolic base o †Available in steel only; one insulated contact.

BATTERY STRAPS

Snap-on connectors include one each male and female conta mounted on a fiber insulator. No. 72 has Jr. contacts, moun on a single 1/16" thick fiber wafer. No. 83 has Jr. contacts v the fiber folded over the wires, providing increased insulati All others have Sr. contacts. Lead length is approx. length wire leads, including 3/8" stripped end.

Keystone No.	Lead Lgth.	For Battery No.*: Eveready	Burgess	RCA	N Ea
68	None	216	2U6	VS312	$0.
72	6.50"	246	2N6	VS305	.
83	6.50"	416	UX5	VS308	.
73	9.00"	266	M-6	None	.
74	8.12"	495, 479, 437, 477	N60X, P60, X50, P45	VS316, VS216, VS217, VS218	.
75	10.00"	276	D6	VS306	.
76	8.00"	455, 457, 467	X30, K45, X45	VS055, VS082, VS016	.
77	7.00"	490	N60	VS090	.

*All batteries listed for a particular strap are the same size gro

SUBMINAX 27 SERIES CONNECTORS

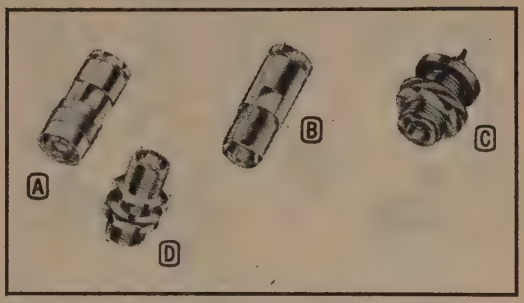


ectors have constant 50 or 75 ohm impedance, voltage rating
0 volts peak, and a frequency limit of 10 GHz. The snap-on
is designed for frequent fast mating and limited space; the
-on type is for vibration type applications or where main-
g contact is essential.

henol o.	MIL No.	Fig.	Description	Imp. Ohms	RG/U Cable
SNAP-ON TYPE					
1	.....	A	Plug	50	174, 179
13	.....	A	Plug	75	180, 195
30*	.....	B	Plug	50	178, 196
6	.....	C	Angle Plug	50	174, 179
18	.....	C	Angle Plug	75	180, 195
33*	.....	D	Angle Plug	50	178, 196
2	.....	E	Jack	50	174, 179
31*	.....	F	Jack	50	178, 196
4	.....	G	Blkhd. Jack	50	174, 179
3	.....	.....	Blkhd. Recpt.	50	.....
15	.....	.....	Blkhd. Recpt.	75	.....
SCREW-ON TYPE					
7	.....	I	Plug	50	174, 179
106‹	.....	J	Plug	50	174, 179
19	.....	I	Plug	75	180, 195
34*	.....	J	Plug	50	178, 196
104*	UG1460/U	J	Plug	50	178, 196
26	.....	K	Angle Plug	50	174, 179
25	.....	K	Angle Plug	75	180, 195
37*	.....	L	Angle Plug	50	178, 196
8	.....	M	Jack	50	174, 179
105*	UG1467/U	N	Jack	50	174, 179
20	.....	M	Jack	75	180, 195
10	.....	O	Blkhd. Jack	50	174, 179
103*	UG1468/U	P	Blkhd. Jack	50	174, 179
22	.....	O	Blkhd. Jack	75	180, 195
9	.....	.....	Blkhd. Recpt.	50	.....
12†	.....	.....	Blkhd. Recpt.	50	.....
101	UG1619/U	.....	Blkhd. Recpt.	50	.....
21	.....	.....	Blkhd. Recpt.	75	.....

d serviceable. †Hermetically sealed.

TRIAX SERIES CONNECTORS



Connectors for use with triaxial cables used in transmission line applications for maximum RF shielding and minimum noise radiation. Impedance is rated at 50 ohms, but the connectors can be used with 75 ohm cables if matching is not critical. Connector mating ends have different threads and will not intermate. Frequency limit is 10 GHz. and voltage rating is 1900–5000 volts, depending on cable being used.

Amphenol No.	Threads	Fig.	Description	RG/U Cable
53250	7/8-20	A	Plug	8
53175	7/8-20	A	Plug	11
53150	1 1/16-24	A	Plug	58A
53100	1 1/16-24	A	Plug	59
52975	7/8-20	B	Jack	11
34375	1 1/16-24	B	Jack	58A
34450	1 1/16-24	C	Blkhd. Recpt.	.....
34475	7/8-20	C	Blkhd. Recpt.	.....
53225	1 1/16-24	D	Blkhd. Adapter	.....

MHV SERIES CONNECTORS

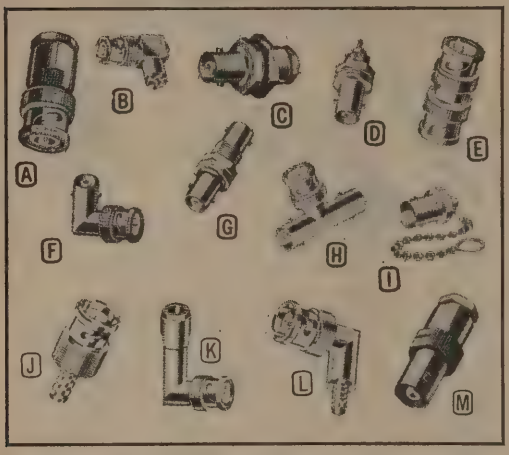


Bayonet-lock coupling coax connectors are small, high voltage types which may be used up to 5000 volts peak at frequencies up to 50 MHz. Impedance is non-constant. Similar to the BNC Series, but will not intermate.

Amphenol No.	MIL No.	Fig.	Description	RG/U Cable
29100	.....	A	Plug	55, 58, 141
28000	UG932/U	A	Plug	59, 62, 71
27975	UG932A/U	A	Plug	140, 210
28100	.....	B	Angle Plug	55, 58, 141
27075	UG1016A/U	C	Jack	59, 62, 71
27000	UG931/U	E	Panel Recpt.	.....
10400	.....	F	Blkhd. Recpt.	.....
27025	.....	F	Blkhd. Recpt.	.....
28400	.....	F	Blkhd. Recpt.	.....
12650	.....	G	Panel Adapter	.....
10425	.....	H	Angle Adapter	.....

SEE FOLLOWING PAGES FOR PRICING

BNC CONNECTORS

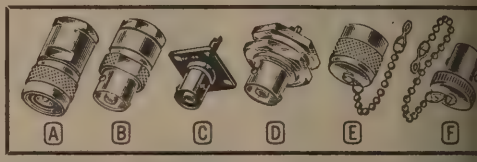


Bayonet coupling coax connectors designed for RG-58, RG-59 and other cable as indicated. Use to 10,000 MHz, 500 V maximum.

Amphenol No.	MIL No.	Fig.	Description	Imp. Ohms	RG Cable
31-002	UG88/U	A	Plug		55, 58
31-012	UG260/U	A	Plug		59, 62, 71
31-018	UG88B/U	A	Plug		55, 58
31-021	UG260A/U	A	Plug		59, 62, 71
31-202	UG88C/U	A	Plug	50	55, 58
31-212	UG260B/U	A	Plug		59, 62, 71
31-4326	M39012	J	Plug		55, 142, 223
31-3301	M39012	A	Plug		55, 58, 141
31-4320	M39012	J	Plug		58, 141, 303
31-4321	M39012	J	Plug		59, 62, 140
31-3302	M39012	A	Plug		59, 62, 140
31-4322	M39012	J	Plug		71
31-3303	M39012	A	Plug		122, 180
31-204	UG913/U	B	Angle Plug		55, 58
31-850		B	Angle Plug		59, 62, 71
31-3365	M39012	K	Angle Plug		55, 142
31-3361	M39012	L	Angle Plug		55, 55A, 58
31-3364	M39012	K	Angle Plug		58, 141
31-005	UG89/U		Jack		55, 58
31-015	UG261/U		Jack		59, 62, 71
31-019	UG89A/U		Jack		55, 58
31-022	UG261A/U		Jack		59, 62, 71
31-205	UG89B/U		Jack	50	55, 58
31-215	UG261B/U		Jack		59, 62, 71
31-4333	M39012		Jack		55, 142, 223
31-3319	M39012	M	Jack		55, 58, 141
31-4327	M39012		Jack		58, 141, 303
31-4328	M39012		Jack		59, 62, 140
31-3320	M39012	M	Jack		59, 62, 71
31-3321	M39012	M	Jack		122, 180
31-001	UG291/U		Panel Jack		55, 58
31-011	UG262/U		Panel Jack		59, 62, 71
31-020	UG291A/U		Panel Jack		55, 58
31-201	UG291B/U		Panel Jack	50	55, 58
31-211	UG262B/U		Panel Jack		59, 62, 71
31-3333	M39012		Panel Jack		55, 58, 141
31-3334	M39012		Panel Jack		59, 62, 71
31-3335	M39012		Panel Jack		122, 180
31-206	UG909/U	C	Blkhd. Jack	50	55, 58
31-207	UG910/U	C	Blkhd. Jack		59, 62, 71
31-4341	M39012		Blkhd. Jack		55, 142, 223
31-3347	M39012	C	Blkhd. Jack		55, 58, 141
31-4343	M39012		Blkhd. Jack		59, 62, 140
31-3348	M39012	C	Blkhd. Jack		59, 62, 71
31-4346	M39012		Blkhd. Jack		122
31-003	UG290/U		Panel Recpt.		
31-105			Panel Recpt.		
31-203	UG290A/U		Panel Recpt.	50	
31-817	UG447/U		Panel Recpt.		
31-842			Panel Recpt.		
4500	UG185/U		Panel Recpt.		
31-3377	M39012		Panel Recpt.		
31-222	UG1098/U		Angle Recpt.	50	
31-016	UG254A/U	D	Blkhd. Recpt.		
31-102	UG657/U	D	Blkhd. Recpt.		
31-221	UG1094/U	D	Blkhd. Recpt.	50	
31-236	UG625B/U	D	Blkhd. Recpt.	50	
31-3375	M39012	D	Blkhd. Recpt.		
31-4238	M39012	D	Blkhd. Recpt.		
31-3376	M39012	D	Blkhd. Recpt.		
31-4237	M39012	D	Blkhd. Recpt.		

Amphenol No.	MIL No.	Fig.	Description	Imp. Ohms	RG Cable
31-218	UG491A/U	E	Adapter	50	
31-219	UG914/U	E	Adapter	50	
31-009	UG306/U	F	Angle Adapter		
31-209	UG306A/U	F	Angle Adapter	50	
31-220	UG492A/U	G	Blkhd. Adapter	50	
47000	UG414/U	G	Blkhd. Adapter		
31-008	UG274/U	H	"T" Adapter		
31-208	UG274A/U	H	"T" Adapter	50	
31-006	CW123/U		Cap & Chain		
31-007	CW155/U		Cap & Chain		
31-017	CW159/U		Cap & Chain		
31-026	M39012		Cap & Chain		
31-027	CW155A/U		Cap & Chain		
31-210	CW282/U	I	Cap & Chain		

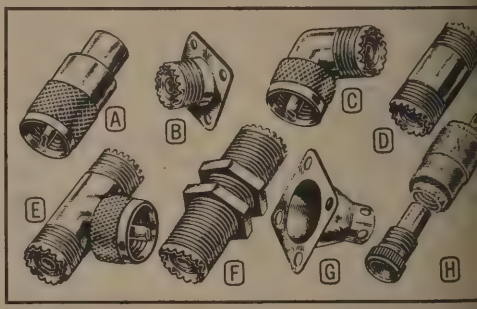
SERIES 82 TYPE C COAXIAL CONNECTORS



Low VSWR to 10,000 MHz, 1,500 V peak. Also used with cab other than 50 ohms. Meets applicable portions of MIL-C-3989

Amphenol No.	UG/U No.	Fig.	Description	RG Cable
82-530	573A	A	Plug	8, 9
82-532	628A	A	Plug	8, 9
82-534	709A	A	Plug	55,
82-531	710A		Angle Plug	8, 9
82-503	572	B	Panel Jack	8, 9
82-504	568	C	Panel Recpt.	
82-515	634	D	Blkhd. Recpt.	
82-535	567A		Angle Adapter	
82-512	MX-1142	E	Male Cap & Chain	
82-513	MX-1143	F	Female Cap & Chain	

SERIES 83 UHF TYPE COAXIAL CONNECTORS

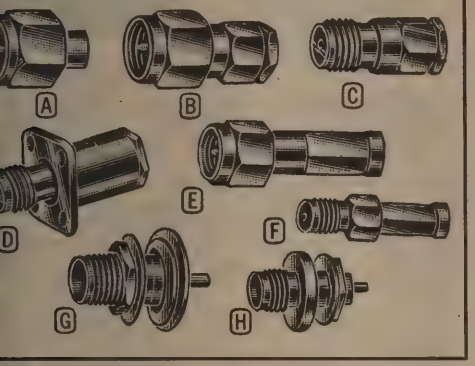


Small, single contact, general purpose connectors of non-const impedance. Meet military specifications.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
83-1SP	PL259	A	Plug	8, 11
83-1SPN	PL259A	A	Plug	8, 11
83-750	111	A	Plug	59, 62
83-850		A	Plug	11
83-851		A	Plug	8
83-59			Angle Plug	8, 11
83-1R	SO239	B	Panel Recpt.	
83-716		B	Panel Recpt.	
83-798	SO239A		Panel Recpt.	
83-1F	363	F	Straight Adapter	
83-1J	PL258	D	Straight Adapter	
83-1AP	646	C	Angle Adapter	
83-1T		E	"T" Adapter	
83-168	176	H	Reducing Adapter	59, 62,
83-185	175	H	Reducing Adapter	55, 58
83-1H	106	G	Hood	8, 11
83-1HP	372	G	Hood	8, 11
83-765	177	G	Hood	55, 58
83-877			Double Male Adpt.	
83-878			Single Hole Recpt.	

SEE FOLLOWING PAGES FOR PRICING

SERIES SMA SEMI-PRECISION 3mm HIGH FREQUENCY CONNECTORS



lent mechanical and electrical performance, DC to 18 GHz, after 100 mating cycles. "Thin Wall" beryllium copper s have .00452" interface mating cross-section. Coupling nut e can be twice that of other SMA designs. Easy assembly res only a simple, low-cost tool kit; crimp style uses standard /TNC Crimper No. 227-350.

Amphenol No. 901-2500 Tool Kit—Jacket and dielectric trim tools for precise cable preparation required for electric performance specified. Net Each, Lots 1–24 ..... **$14.90**

PLUGS AND JACKS

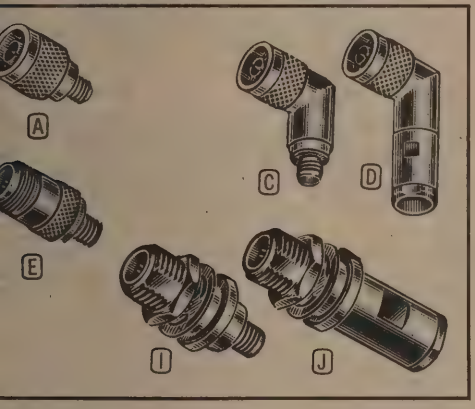
Solder attachment, except: *Clamp; †Crimp.

Amphenol Number	Fig.	Description	For RG/U Cable
901-113	A	Plug, less contact & insul.	.141" dia. Cujak
901-105	B	Plug with contact & insul.	.141" dia. Cujak
901-106	C	Jack with contact & insul.	.141" dia. Cujak
901-103*	....	Straight plug	55, 58, 141, 142, 223
901-104*	....	Straight jack	55, 58, 141, 142, 223
901-121*	D	Panel jack	55, 58, 141, 142, 223
901-101†	E	Straight plug	55, 142, 223
901-102†	F	Straight jack	55, 143, 223
901-109†	....	Straight plug	58, 141, 303
901-110	....	Straight jack	58, 141, 303

RECEPTACLES & WITHIN-SERIES ADAPTERS

Amphenol Number	Fig.	Description	Std. Wave Ratio Max. SWR	Std. Wave Ratio To f(GHz)
901-112	....	Panel receptacle	.....	.....
901-116	G	Rear-mt. bulkhead recept.	.....	.....
901-117	H	Front-mt. bulkhead recept.	.....	.....
901-118	....	Straight plug-plug adapter	1.15	.01
901-119	....	Straight jack-jack adapter	1.15	.01
901-120	....	Bulkhead jack-jack adapter	1.15	.01

TYPE N MIL-C-39012 CONNECTORS

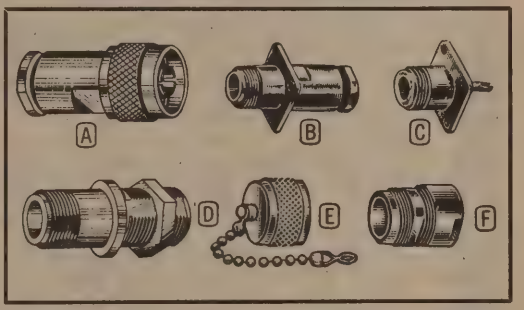


um size, weather proof, threaded coupling units for use microwave frequencies. Designed to meet MIL-C-39012. have crimpable fully captivated contacts, cable retention to the strength of the cable braid and utilize the same of crimpable tools as the Amphenol BNC/TNC MIL Frequency range 0–10,000 MHz. 1500 V peak voltage.

henol mber	UG/U No.	Fig.	MIL No. M39012/	Imped. Ohms	RG/U Cable
0	1681	A	Mil crimp 01-0007	50	8, 9, 213
2	1682	A	Mil crimp 01-0008	50	214
75	.....	A	Mil crimp	50	142, 223
6	1708	C	Mil crimp 05-0003	50	8, 9, 213, 214
74	.....	C	Mil crimp	50	223
7	1688	E	Mil crimp 02-0008	50	8, 9, 213, 214
3	1689	E	Mil crimp 02-0009	50	.....
5	1701	I	Mil crimp 03-0005	50	8, 9, 213, 214
73	.....	I	Mil crimp	50	142, 223

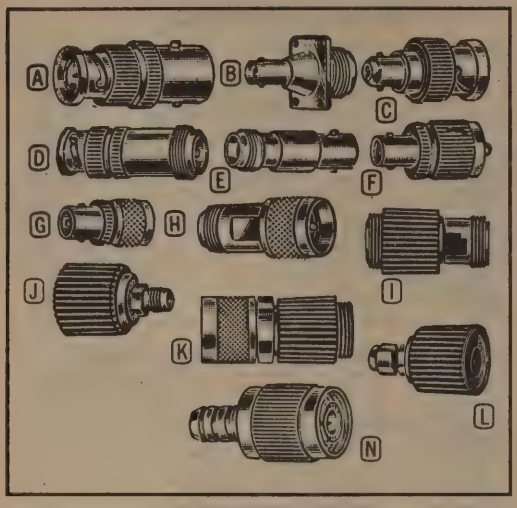
SEE FOLLOWING PAGES FOR PRICING AND BETWEEN SERIES ADAPTERS

TYPE N COAXIAL CONNECTORS

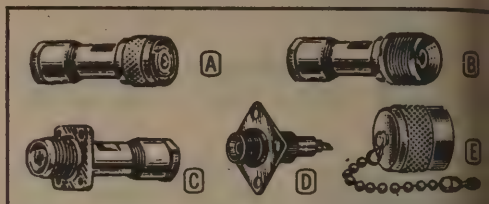


Impedance matched to 50 or 70-ohm cables. 50-ohm connectors **will not** mate with 75-ohm connectors. Frequency range, 0–10,000 MHz. 500 V maximum. Threaded coupling.

Amphenol No.	UG/U No.	Fig.	Description	Imped. Ohms	RG/U Cable
82-61	21B	A	Plug	50	8, 9, 10
82-84	94A	A	Plug	70	11, 12, 13
82-85	18B	A	Plug	50	5, 6, 21
82-96	21C	A	Plug	50	8, 9, 10
82-104	167A	....	Plug	50	17, 18
82-202	21D	A	Plug	50	8, 9, 10
82-203	18C	A	Plug	50	5, 6, 21
34000	536	A	Plug	50	58, 141
82-835	.....	....	Angle Plug	50	8, 9, 10, 87A
82-63	23B	B	Jack	50	8, 9, 10
82-89	95A	B	Jack	70	11, 12, 13
82-209	23D	B	Jack	50	8, 9, 10
82-62	22B	B	Panel Jack	50	8, 9, 10
82-67	160A	....	Blkhd. Jack	50	8, 9, 10
82-93	160B	....	Blkhd. Jack	50	8, 9, 10
82-24	58	C	Panel Recpt.	50	.....
82-97	58A	C	Panel Recpt.	50	.....
82-112	.....	C	Panel Recpt.	70	.....
82-811	680	....	Blkhd. Recpt.	50	.....
82-65	29A	D	Adapter	50	.....
82-100	57B	D	Adapter	50	.....
82-101	29B	D	Adapter	50	.....
82-64	27A	....	Angle Adapter	50	.....
82-98	27B	....	Angle Adapter	50	.....
82-213	27C	....	Angle Adapter	50	.....
82-66	30	....	Blkhd. Adapter	50	.....
82-36	107A	....	"T" Adapter	50	.....
82-99	28A	....	"T" Adapter	50	.....
82-102	107B	....	"T" Adapter	50	.....
82-106	MX913	E	Cap & Chain	.....	.....



TYPE HN COAXIAL CONNECTORS



Medium size, high voltage, 50-ohm constant impedance connecto
with threaded coupling. Meets applicable sections of MIL-C-364
Low VSWR to 10,000 MHz. 1,500 V maximum.

Amphenol No.	UG/U No.	Fig.	Description	RG/U Cable
82-38	59A	A	Straight Plug	8, 9, 10
82-111	495A	A	Straight Plug	17, 18
82-804	59B	A	Straight Plug	8, 9, 10
82-816	.....	A	Straight Plug	54A
82-833	.....	.....	Angle Plug	8, 9, 10
82-856	.....	.....	Angle Plug	8, 9, 10
82-39	60A	B	Straight Jack	8, 9, 10
82-814	60B	B	Straight Jack	8, 9, 10, 8
82-92	496	D	Panel Recpt.	.....
82-805	560	D	Panel Recpt.	.....
82-91	212A	.....	Angle Adapter	.....
82-130	.....	E	Cap & Chain	....

BETWEEN SERIES ADAPTERS

APC, BNC, C, HN, MB, N, SMA, TNC, UHF

Amphenol No.	UG/U No.	Fig.	Mates with				Imp., Ohms
			Plug	Recpt.	Plug	Recpt.	
83175	635	A	.....	BNC	C	.....	50
83200	636A	A	BNC	.....	.....	C	50
8900	309	B	BNC	.....	.....	HN	50
47250	.....	C	BNC	.....	.....	MB	50
47275	.....	C	.....	BNC	MB	.....	50
31-216	201A	D	BNC	.....	.....	N	.....
31-217	349A	D	.....	BNC	N	.....	.....
31-830	201	D	BNC	.....	.....	N	.....
2800*	.....	D	BNC	.....	N	.....	50
2975	349	D	.....	BNC	N	.....	50
4900	.....	D	.....	BNC	.....	N	50
5225	1034	D	.....	BNC	.....	N	50
5850‡	.....	D	BNC	.....	N	.....	50
21850†	.....	D	BNC	.....	N	.....	50
79025	.....	E	.....	BNC	TNC	.....	50
79675	.....	E	BNC	.....	.....	TNC	50
31-028	273	F	BNC	.....	.....	UHF	.....
2900	255	F	.....	BNC	UHF	.....	50
12025	.....	F	BNC	.....	.....	UHF	50
82-508	564	G	C	.....	N	N	50
82-540	565A	G	.....	C	N	.....	50
4400	146	H	.....	N	UHF	.....	.....
14000	83	H	N	.....	.....	UHF	.....
26700	318	H	.....	N	.....	UHF	.....
131-1025	.....	I	APC-7		.....	N	50
131-1026	.....	....	APC-7		.....	BNC	50
131-1027	.....	....	APC-7		.....	OSM	50
131-1028	.....	J	APC-7		.....	SMA	50
131-1035	.....	K	APC-7		N	.....	50
131-1036	.....	....	APC-7		TNC	.....	50
131-1037	.....	....	APC-7		BNC	.....	50
131-1038	.....	L	APC-7		SMA	.....	50

*Angle, flange mount. †Bulkhead mount. ‡Pressurized, bulkhead mount.

QUICK-CRIMP TNC SERIES CONNECTORS

Exclusive design has optional crimp or solder center contact. Maintains constant impedance even when center contact is crimped. Non-impedance match connector when used with cables other than 50 ohms. VSWR is identical to standard solder type TNC connectors, 1.25 to 1, over frequency range to 10,000 MHz.

Amphenol No.	Fig.	Description	RG/U Cable
36825	N	Plug	58, 58A, 58C, 141

RF CRIMPING TOOLS



227-900 227-944

Attach connectors to cables quickly and easily. Crimping for
automatically controlled. Meets MIL specifications.

Amphenol No.	Connector Series	For use with RG/U cable
227-900	27 Shield Only	174, 179, 187, 188
227-901		180, 195
227-902		Adapter for 27-14 connector
227-913		Adapter for 27-4, 27-8, 27-10
227-914		Adapter for 27-16, 27-20, 27-22
227-1221-57	N Shield and Contact	55, 58, 141, 142, 223, 303, 400
227-1221-59		59, 62, 140, 210
227-1221-29		5, 6, 21, 143, 212, 222, 304
227-1221-25		8, 9, 11, 87A, 149, 165, 213, 214, 216, 225, 393
227-1221-05	BNC & TNC Shield and Contact	122, 174, 179, 180, 187, 188, 195, Essex 21-597
227-1221-11		55, 58, 141, 142, 223, 303, 400
227-1221-13		59, 62, 140, 210
227-1221-15		71
227-1221-11	MHV Shield Only	55, 58, 141, 142, 223, 303, 400
227-1221-11	UHF Shield Only	55, 58, 141, 142, 223, 303, 400
227-1221-13		59, 62, 140, 210
227-1221-23		8, 11, 149, 213
227-1221-09	SMA Shield Only	122, 174, 179, 180, 187, 188, 195
227-1221-11		55, 58, 141, 142, 223, 303, 400
227-944		Frame only for all 227-1221 die se

OUR STOCKS ARE COMPLETE AND UP TO DATE

THREADED COUPLING SERIES 91



ing hole, 11/16" diameter; maximum 1/4" thick panel. Three ts, except (*), 4 contacts; (†), 6 contacts. Black phenolic ric chrome plated brass shells.

enol o.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
C3	Cap and chain	$1.71	$1.42	$1.24	$1.07	$0.91
3F	Female jack	3.43	2.85	2.48	2.12	1.80
3F1	Female plug	3.50	2.92	2.53	2.16	1.84
3M	Male plug	3.27	2.73	2.37	2.03	1.72
3M1	Male jack	3.43	2.85	2.48	2.12	1.80
4F	Female jack*	3.50	2.92	2.53	2.16	1.84
4F1	Female plug*	3.50	2.92	2.53	2.16	1.84
4M	Male plug*	3.24	2.70	2.35	2.01	1.70
4M1	Male jack*	3.39	2.82	2.46	2.09	1.79
6F	Female jack†	3.94	3.28	2.85	2.45	2.07
6M	Male plug†	2.94	2.46	2.13	1.82	1.56
3F	Female recept.	2.69	2.24	1.94	1.65	1.41
6F	Female rcpt.†	2.94	2.46	2.13	1.82	1.56
3M	Male recept.	2.20	1.83	1.59	1.36	1.16
4F	Female rcpt.*	2.49	2.08	1.81	1.54	1.31
4M	Male recept.*	2.24	1.86	1.62	1.38	1.17
6M	Male recept.†	2.27	1.89	1.64	1.40	1.19

SERIES 75 MICROPHONE CONNECTORS

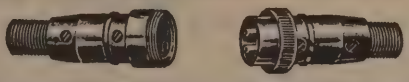


e button contact and threaded coupling permit plug con- n to jack by removal of coupling ring. Receptacles mount .5" holes when grounding, .500" holes for ungrounded two operation.

enol o.	Description	Fig.	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
C1*	Cap and chain	. . .	$1.63	$1.35	$1.18	$1.01	$0.86
C1F	Straight plug	A	1.88	1.56	1.35	1.16	.99
C1FA	Angle plug	B	4.74	3.95	3.43	2.94	2.49
C1M	Cable jack	C	1.34	1.12	.98	.84	.70
C1P	Phone pl. adpt.	. . .	1.49	1.24	1.08	.92	.78
1M	Chassis recept.	D	1.60	1.33	1.16	.99	.84

also be used with Series 80 connectors.

SERIES 80 MICROPHONE CONNECTORS



All mount in 5/8" hole. Maximum panel thickness for receptacles is 11/16". Single contacts, except (*), 2 contacts. Chrome finish.

Amphenol No.	Description	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
80-C	Female recept.	$1.72	$1.43	$1.25	$1.07	$0.90
80-M	Male plug	2.42	2.02	1.74	1.49	1.28
80-MC2F	Female jack*	2.73	2.28	1.97	1.69	1.43
80-MC2F1	Female plug*	3.43	2.86	2.49	2.13	1.81
80-MC2M	Male plug*	2.50	2.08	1.81	1.54	1.31
80-MC2M1	Male jack*	2.58	2.15	1.86	1.59	1.36
80-PC2F	Female rcpt.*	1.92	1.59	1.38	1.19	1.01
80-PC2M	Male recept.*	1.83	1.53	1.34	1.14	.96

MINIATURE CABLE CONNECTORS



Black phenolic dielectric in cadmium plated brass shell. Polarized contact spacing. Plugs and receptacles take cables up to 1/4" dia. Panel receptacle mounts in 7/8" hole with two 6-32 screw holes on 1 1/4" centers. Series 91 also available in short shell. Prices on request.

SERIES 91 PLUGS (FIG. A)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-499	500-999*
91-MPM-3L	3	$1.98	$1.64	$1.42	$1.22	$1.05
91-MPM-4L	4	1.71	1.42	1.24	1.07	.91
91-MPM-5L	5	2.02	1.68	1.46	1.24	1.06
91-MPM-6L	6	1.41	1.18	1.03	.89	.74

SERIES 91 RECEPTACLES (FIG. B)

91-MPF-3L	3	$2.02	$1.68	$1.46	$1.24	$1.06
91-MPF-4L	4	1.86	1.56	1.36	1.16	.98
91-MPF-5L	5	2.24	1.86	1.70	1.38	1.17
91-MPF-6L	6	2.57	2.14	1.86	1.59	1.36

PANEL RECEPTACLES (FIG. C)

Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-PCG3	3	$1.35	$1.13	$0.99	$0.85	$0.72
78-PCG4	4	1.62	1.34	1.17	1.02	.85
78-PCG5	5	1.97	1.63	1.42	1.23	1.03
78-PCG6	6	2.08	1.74	1.52	1.33	1.12

SERIES 91T MINIATURE CABLE-TO-PANEL CONNECTORS

oximately 33% smaller than above Series 91. Provide high density, low cost, top quality interconnections for microphones, recorders, way radios, industrial controls and data processing. Threaded coupling lock design.

CABLE PLUGS							PANEL RECEPTACLES			
Straight				Right Angle						
Amphenol Number	Net Each, Lots of 1-49	50-99	100-249	Amphenol Number	Net Each, Lots of 1-49	50-99	100-249	Amphenol Number	Net Each, Lots of 1-49	50-99	100-249
91-T-3200-1	.....	$2.98	$2.49	91-T-3200-6	.....	$3.71	$3.09	91-T-3203-9	.....	$1.53	$1.28
91-T-3260-1	$3.47	2.84	2.36	91-T-3260-6	.....	3.82	3.18	91-T-3263-9	$1.81	1.47	1.23
91-T-3300-1	3.47	2.84	2.36	91-T-3300-6	.....	3.92	3.27	91-T-3303-9	1.87	1.53	1.28
91-T-3360-1	3.54	2.89	2.42	91-T-3360-6	.....	3.99	3.33	91-T-3363-9	2.04	1.66	1.39
91-T-3400-1	3.89	3.17	2.65	91-T-3400-6	$4.89	4.01	3.34	91-T-3403-9	2.06	1.68	1.41
91-T-3475-1	3.93	3.21	2.68	91-T-3475-6	5.08	4.16	3.47	91-T-3478-9	2.22	1.82	1.51
91-T-3635	6.54	5.34	4.46	91-T-3635-6	9.26	7.58	6.31	91-T-3638-9	4.99	4.08	3.40

★LARGER QUANTITY PRICES ON REQUEST

We are constantly adding new products and new manufacturers to our inventory. Call or write us for information on any product requirement not listed in this catalog.

AMPHENOL RF CONNECTOR PRICING

MIL No.	Amphenol No.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
CW-123	31-006	$ 1.71	$ 1.33	$ 1.09	$ 0.94	....
CW-155	31-007	.95	.74	.60	.52	....
CW-155A	31-027	1.24	.97	.79	.68	....
CW-159	31-017	2.64	2.06	1.68	1.45	....
CW-282	31-210	2.58	2.02	1.65	1.42	....
MX-911	82-106	1.82	1.42	1.16	1.00	....
MX-1142	82-512	2.97	2.31	1.89	1.63	....
PL-258	83-1J	1.95	1.52	1.24	1.07	$0.99
PL-259	83-1SP	1.78	1.39	1.14	.98	.88
PL-259A	83-1SPN	3.40	2.66	2.17	1.87	1.73
SO-239	83-1R	1.07	.84	.68	.59	.55
SO-239A	83-798	2.26	1.76	1.44	1.24	1.12
.....	27-1	2.22	1.73	1.42	1.22	1.14
.....	27-2	2.24	1.75	1.43	1.23	1.16
.....	27-3	2.38	1.86	1.52	1.31	1.24
.....	27-4	3.59	2.80	2.29	1.97	1.86
.....	27-6	5.70	4.44	3.63	3.13	2.92
.....	27-8	2.60	2.03	1.66	1.43	1.34
.....	27-9	2.58	2.02	1.65	1.42	1.34
.....	27-10	4.46	3.48	2.84	2.45	2.29
.....	27-12	13.92	10.86	8.87	7.65	....
.....	27-13	6.30	4.91	4.01	3.46	3.20
.....	27-14	....	7.63	6.23	5.37	....
.....	27-15	4.50	3.51	2.87	2.47	2.32
.....	27-16	....	4.43	3.62	3.12	....
.....	27-18	8.97	7.00	5.72	4.93	....
.....	27-19	4.88	3.81	3.11	2.68	2.52
.....	27-20	9.28	7.24	5.92	5.10	....
.....	27-21	4.22	3.29	2.69	2.32	2.19
.....	27-22	6.28	4.90	4.00	3.45	3.28
.....	27-25	9.01	7.03	5.74	4.95	4.65
.....	27-26	5.44	4.25	3.47	2.99	2.80
.....	27-27	....	7.84	6.40	5.52	....
.....	27-30	7.92	6.18	5.05	4.35	....
.....	27-31	13.40	10.45	8.54	7.36	....
.....	27-32	....	6.59	5.38	4.64	....
.....	27-33	10.96	8.55	6.98	6.02	....
.....	27-34	10.01	7.81	6.38	5.50	5.14
.....	27-35	....	10.92	8.92	7.69	....
UG1619/U	27-101	3.79	2.95	2.41	2.08	....
UG1463/U	27-102	....	12.06	9.85	8.49	....
UG1469/U	27-103	15.09	11.77	9.62	8.29	....
UG1460/U	27-104	14.21	11.09	9.06	7.81	....
UG1467/U	27-105	13.58	10.59	8.65	7.46	7.03
.....	27-106	14.78	11.53	9.42	8.12	....
UG1464/U	27-108	7.63	5.95	4.86	4.19	3.99
UG18B/U	82-86	6.01	4.69	3.83	3.30	....
UG18C/U	82-203	6.68	5.21	4.26	3.27	....
UG21B/U	82-61	3.42	2.67	2.18	1.88	1.72
UG21C/U	82-96	3.91	3.05	2.49	2.15	1.95
UG-21D/U	82-202	3.15	2.46	2.01	1.73	1.58
UG-22B/U	82-62	4.73	3.69	3.02	2.60	....
UG-23B/U	82-63	4.20	3.28	2.68	2.31	....
UG-23D/U	82-209	3.51	2.74	2.24	1.93	....
UG-27A/U	82-64	9.70	7.57	6.18	5.33	....
UG-27B/U	82-98	9.10	7.10	5.80	5.00	....
UG-27C/U	82-213	7.88	6.15	5.02	4.33	....
UG-28A/U	82-99	12.54	9.78	7.99	6.89	....
UG-29A/U	82-65	5.22	4.08	3.33	2.87	....
UG-29B/U	82-101	4.84	3.78	3.09	2.66	....
UG-30/U	82-66	8.86	6.92	5.65	4.87	....
UG-57B/U	82-100	6.37	4.97	4.06	3.50	....
UG-58/U	82-24	2.73	2.13	1.74	1.50	1.35
UG-58A/U	82-97	2.97	2.31	1.89	1.63	....
UG-59A/U	82-38	10.47	8.17	6.67	5.75	....
UG-59B/U	82-804	10.67	8.32	6.80	5.86	....
UG-60A/U	82-39	12.27	9.57	7.82	6.74	....
UG-60B/U	82-814	14.67	11.45	9.35	8.06	....
UG-83/U	14000	7.59	5.92	4.84	4.17	....
UG-88/U	31-002	1.75	1.36	1.11	.96	.87
UG-88B/U	31-018	1.89	1.48	1.21	1.04	.94
UG-88C/U	31-202	1.53	1.19	.97	.84	.75
UG-89/U	31-005	3.17	2.47	2.02	1.74	1.57
UG-89A/U	31-019	2.33	1.82	1.48	1.28	....
UG-89B/U	31-205	1.89	1.48	1.21	1.04	....
UG-94A/U	82-84	5.13	4.00	3.27	2.82	....
UG-95A/U	82-89	6.17	4.81	3.93	3.39	....
UG-96A/U	82-90	....	....	5.19	4.47	....
UG-106/U	83-1H	1.55	1.21	.99	.85	....
UG-107A/U	82-36	16.49	12.87	10.51	9.06	....
UG-107B/U	82-102	12.90	10.07	8.22	7.09	....
UG-111/U	83-750	2.28	1.78	1.45	1.25	1.14
UG-146/U	4400	6.72	5.24	4.28	3.69	....

MIL No.	Amphenol No.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
UG-160A/U	82-67	$10.79	$ 8.42	$ 6.88	$ 5.93	....
UG-160B/U	82-93	11.17	8.72	7.12	6.14	....
UG-167A/U	82-104	16.27	12.69	10.37	8.94	....
UG-175/U	83-185	.36	.28	.23	.20	$0.18
UG-176/U	83-168	.38	.30	.24	.21	.19
UG-177/U	83-765	1.09	.85	.70	.60	.55
UG-185/U	4500	3.40	2.66	2.17	1.87	1.71
UG-201/U	31-830	5.88	4.59	3.75	3.23	....
UG-201A/U	31-216	4.55	3.55	2.90	2.50	2.33
UG-212A/U	82-91	28.61	22.32	18.24	15.72	....
UG-254A/U	31-016	11.61	9.06	7.40	6.38	....
UG-255/U	2900	4.33	3.38	2.76	2.38	....
UG-260/U	31-012	1.98	1.55	1.26	1.09	.99
UG-260A/U	31-021	2.20	1.72	1.40	1.21	1.11
UG-260B/U	31-212	1.75	1.36	1.11	.96	.87
UG-261/U	31-015	2.88	2.24	1.83	1.58	....
UG-261A/U	31-022	2.80	2.19	1.79	1.54	....
UG-261B/U	31-215	2.42	1.89	1.54	1.33	....
UG-262/U	31-011	4.04	3.15	2.58	2.22	....
UG-262A/U	31-023	....	....	3.81	3.27	....
UG-262B/U	31-211	4.30	3.35	2.74	2.36	....
UG-273/U	31-028	2.86	2.23	1.82	1.57	1.43
UG-274/U	31-008	5.53	4.32	3.53	3.04	2.76
UG-274A/U	31-208	5.17	4.03	3.29	2.84	2.59
UG-290/U	31-003	2.33	1.82	1.48	1.28	1.16
UG-290A/U	31-203	1.66	1.29	1.06	.91	.84
UG-291/U	31-001	4.39	3.42	2.80	2.41	2.19
UG-291A/U	31-020	4.11	3.21	2.62	2.26	....
UG-291B/U	31-201	4.42	3.45	2.82	2.43	....
UG-306/U	31-009	5.39	4.20	3.43	2.96	2.70
UG-306A/U	31-209	4.90	3.82	3.12	2.69	....
UG-309/U	8900	18.40	14.36	11.73	10.11	....
UG-318U/	26700	10.90	8.51	6.95	5.99	....
UG-349/U	2975	10.30	8.04	6.57	5.66	....
UG-349A/U	31-217	5.62	4.39	3.58	3.09	....
UG-363/U	83-1F	5.48	4.27	3.49	3.01	2.76
UG-372/U	83-1HP	1.58	1.24	1.01	.87	....
UG-414/U	47000	5.44	4.25	3.47	2.99	....
UG-447/U	31-817	2.95	2.30	1.88	1.62	1.45
UG-491A/U	31-218	3.97	3.10	2.53	2.18	1.98
UG-492A/U	31-220	4.59	3.58	2.92	2.52	2.29
UG-495A/U	82-111	27.90	21.77	17.78	15.33	....
UG-496/U	82-92	7.68	5.99	4.90	4.22	....
UG-536/U	34000	6.37	4.97	4.06	3.50	....
UG-560/U	82-805	10.65	8.31	6.79	5.85	....
UG-564/U	82-508	9.21	7.19	5.87	5.06	....
UG-565A/U	82-540	14.40	11.23	9.18	7.91	....
UG-567A/U	82-535	24.41	19.04	15.56	13.41	....
UG-568/U	82-504	5.79	4.52	3.69	3.18	....
UG-572/U	82-503	10.17	7.94	6.48	5.59	....
UG-573A/U	82-530	7.04	5.50	4.49	3.87	....
UG-593/U	35500	....	....	5.91	5.09	....
UG-625B/U	31-236	1.24	.97	.79	.68	.62
UG-628A/U	82-532	12.96	10.11	8.26	7.12	....
UG-634/U	82-515	12.39	9.67	7.90	6.81	....
UG-635/U	83175	15.58	12.16	9.93	8.56	....
UG-636A/U	83200	14.91	11.63	9.50	8.19	....
UG-646/U	83-1AP	3.19	2.49	2.03	1.75	1.60
UG-657/U	31-102	2.42	1.89	1.54	1.33	1.20
UG-680/U	82-811	7.28	5.68	4.64	4.00	3.65
UG-709A/U	82-534	6.81	5.31	4.34	3.74	....
UG-710A/U	82-531	14.16	11.05	9.02	7.78	....
UG-909/U	31-206	3.53	2.75	2.25	1.94	1.77
UG-910/U	31-207	3.79	2.95	2.41	2.08	....
UG-913/U	31-204	6.19	4.83	3.94	3.40	3.09
UG-914/U	31-219	2.51	1.96	1.60	1.38	1.28
UG-941A/U	82-204	....	....	5.22	4.51	....
UG-1034/U	5225	13.23	10.32	8.43	7.27	....
UG-1094/U	31-221	1.18	.92	.75	.65	.60
UG-1098/U	31-222	6.41	5.00	4.08	3.52	3.20
.....	31.026	1.78	1.39	1.14	.98	....
.....	31-105	3.29	2.57	2.10	1.81	....
.....	31-842	4.11	3.21	2.62	2.26	....
.....	31-850	7.03	5.48	4.48	3.86	....
.....	82-112	6.79	5.30	4.33	3.73	....
.....	82-130	3.66	2.85	2.33	2.01	....
.....	82-332	6.22	4.86	3.97	3.42	....
.....	82-333	7.63	5.95	4.86	4.19	....
.....	82-334	....	....	10.15	8.92	....
.....	82-335	15.87	12.38	10.12	8.72	....
.....	82-336	20.68	16.13	13.18	11.36	....
.....	82-337	7.52	5.86	4.79	4.13	....
.....	82-340	5.73	4.47	3.65	3.15	....
.....	82-816	10.50	8.19	6.69	5.77	....

Continued on the following page

COMPLETE LINE OF RF CONNECTORS FOR PROMPT DELIVERY.

ASK FOR UNLISTED OR NON-STOCK ITEMS, AVAILABLE ON SPECIAL ORDER.

AMPHENOL RF CONNECTOR PRICING (CONTINUED)

MIL No.	Amphenol No.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
.....	82-833	$16.87	$13.16	$10.75	$ 9.27	....
.....	82-835	10.88	8.49	6.94	5.98	....
.....	82-5370	5.06	3.95	3.22	2.78	$2.58
.....	82-5371	....	....	3.57	3.13	....
.....	82-5373	9.50	7.41	6.06	5.22	....
.....	82-5374	13.23	10.32	8.43	7.27	....
.....	82-5375	4.75	3.71	3.03	2.61	....
.....	82-5379	....	....	11.31	9.88	....
.....	83-1T	4.77	3.72	3.04	2.62	2.42
.....	83-59	7.57	5.91	4.83	4.16	....
.....	83-716	17.67	13.79	11.26	9.71	....
.....	83-850	13.30	10.38	8.48	7.31	....
.....	83-851	8.10	6.32	5.16	4.45	....
.....	83-877	2.75	2.14	1.75	1.51	1.39
.....	83-878	1.47	1.15	.94	.81	....

MIL No.	Amphenol No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
.....	131-1025	126.55	102.76	$90.50	$82.81	$76.69
.....	131-1026	122.82	99.72	87.81	80.36	74.42
.....	131-1027	126.31	102.58	90.35	82.67	76.55
.....	131-1028	115.58	93.83	82.63	75.62	70.02
.....	131-1035	122.82	99.72	87.81	80.36	74.42
.....	131-1036	126.55	102.76	90.50	82.81	76.69
.....	131-1037	126.55	102.76	90.50	82.81	76.69
.....	131-1038	121.29	98.50	86.72	79.38	73.49

MIL No.	Amphenol No.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
.....	227-900	$ 89.44	.....	.....	.....	.....
.....	227-901	89.44	.....	.....	.....	.....
.....	227-902	19.50	.....	.....	.....	.....
.....	227-913	8.84	.....	.....	.....	.....
.....	227-914	6.24	.....	.....	.....	.....
.....	227-944	117.52	.....	.....	.....	.....
.....	227-1221-09	50.44	.....	.....	.....	.....
.....	227-1221-11	50.44	.....	.....	.....	.....
.....	227-1221-13	50.44	.....	.....	.....	.....
.....	227-1221-15	50.44	.....	.....	.....	.....
.....	227-1221-23	50.44	.....	.....	.....	.....
.....	227-1221-25	50.44	.....	.....	.....	.....
.....	227-1221-29	50.44	.....	.....	.....	.....
.....	227-1221-57	50.44	.....	.....	.....	.....
.....	227-1221-59	50.44	.....	.....	.....	.....
.....	901-101	7.10	$ 5.54	$4.52	$3.90	....
.....	901-102	7.08	5.52	4.51	3.89	....
.....	901-103	9.50	7.41	6.06	5.22	....
.....	901-104	8.65	6.75	5.51	4.75	....
.....	901-105	6.83	5.33	4.35	3.75	....
.....	901-106	6.88	5.37	4.38	3.78	....
.....	901-107	....	11.63	9.50	8.19	....
.....	901-109	6.77	5.28	4.32	3.72	....
.....	901-110	5.77	4.50	3.68	3.17	....
.....	901-112	7.26	5.67	4.63	3.99	....
.....	901-113	4.93	3.85	3.14	2.71	....
.....	901-116	8.35	6.52	5.32	4.59	....

MIL No.	Amphenol No.	Net Each, Lots of 1-24	25-99	100-499	500-999	1000-2499
.....	901-117	$ 9.70	$ 7.57	$ 6.18	$ 5.33	....
.....	901-118	9.45	7.37	6.02	5.19	....
.....	901-119	7.84	6.12	5.00	4.31	....
.....	901-120	9.79	7.64	6.24	5.38	....
.....	901-121	13.72	10.71	8.75	7.54	....
.....	901-122	....	9.19	7.51	6.47	....
.....	2800	28.94	22.58	18.44	15.90	....
.....	4900	11.72	9.14	7.47	6.44	....
.....	5850	35.74	27.89	22.78	19.64	....
.....	10400	13.12	10.24	8.36	7.21	....
.....	10425	25.10	19.58	16.00	13.79	....
.....	12025	5.75	4.49	3.67	3.16	....
.....	12650	9.86	7.70	6.29	5.42	....
.....	21850	18.76	14.64	11.96	10.31	....
UG-931/U	27000	3.33	2.60	2.12	1.83	$1.67
.....	27025	5.88	4.59	3.75	3.23	....
UG-1016A/U	27075	7.33	5.72	4.67	4.03	....
UG-932A/U	27975	4.57	3.56	2.91	2.51	....
UG-932/U	28000	3.88	3.02	2.47	2.13	1.94
.....	28100	11.63	9.07	7.41	6.39	....
.....	28400	14.27	11.13	9.09	7.84	....
.....	29100	5.53	4.32	3.53	3.04	....
.....	34375	24.46	19.08	15.59	13.44	....
.....	34450	19.06	14.87	12.15	10.47	....
.....	34475	26.24	20.48	16.73	14.42	....
.....	36650	3.33	2.60	2.12	1.83	....
.....	36675	22.17	17.30	14.13	12.18	....
.....	36775	2.37	1.85	1.51	1.30	1.21
.....	36800	2.60	2.03	1.66	1.43	....
.....	36825	3.46	2.70	2.20	1.90	....
.....	36875	2.55	1.99	1.62	1.40	1.30
.....	47250	12.61	9.84	8.04	6.93	....
.....	47275	11.39	8.89	7.26	6.26	....
.....	52975	42.57	33.21	27.13	23.39	....
.....	53100	21.62	16.87	13.78	11.88	....
.....	53150	19.86	15.49	12.66	10.91	....
.....	53175	29.50	23.02	18.80	16.21	....
.....	53225	45.70	35.66	29.13	25.11	....
.....	53250	29.37	22.92	18.72	16.14	....
.....	68150	4.11	3.21	2.62	2.26	2.11
.....	68175	2.37	1.85	1.51	1.30	1.21
.....	79025	11.72	9.14	7.47	6.44	....
.....	79675	9.63	7.51	6.14	5.29	....
.....	95575	....	....	7.12	6.23	....
.....	95600	10.61	8.28	6.76	5.83	....
.....	95625	11.52	8.99	7.34	6.33	....
.....	95700	6.97	5.44	4.44	3.83	....
.....	95725	5.66	4.42	3.61	3.11	....
.....	95750	6.10	4.76	3.89	3.35	....
.....	97775	....	....	13.86	11.99	....

COMPLETE LINE OF RF CONNECTORS FOR PROMPT DELIVERY.

ASK FOR UNLISTED OR NON-STOCK ITEMS, AVAILABLE ON SPECIAL ORDER.

BUNKER RAMO AMPHENOL Tube Sockets

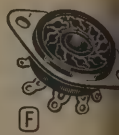

A


B


C


D


E


F

MIP MOLDED-IN-PLATE SOCKETS (FIG. A)

Steel mounting plate molded in black phenolic body; can't come loose. Mounts in 1⅛" hole with two ⅛" holes on 1½" centers.

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP4	4	$1.15	$0.95	$0.85	$0.73	$0.62
MIP26	4	1.27	1.05	.90	.79	.67
MIP5	5	1.27	1.05	.90	.79	.67
MIP6	6	1.34	1.13	.98	.85	.72
MIP7S	7 Small	1.45	1.19	1.05	.92	.77
MIP8	8 Octal	1.15	.95	.85	.73	.62
MIP9	9	1.15	.95	.85	.73	.62
MIP11	11	1.34	1.13	.98	.85	.72
MIP12	12	1.27	1.05	.90	.79	.67
MIP20†	20	2.79	2.32	2.03	1.75	1.48

TYPE RS REPLACEMENT SOCKETS (FIG. B)

Same as Type "S" but with retainer rings in nickel-plated steel mounting rings. Replaces wafer types. Slotted holes in mounting ring fit 1½" to 1⅝" mtg. centers. Uses 6-32 screw. Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
RS4	4	$1.23	$1.06	$0.92	$0.81	$0.67
RS5	5	1.36	1.13	.99	.86	.72
RS8	8 Octal	1.36	1.13	.99	.86	.72
RS9	9	1.36	1.13	.99	.86	.72
RS11	11	1.53	1.28	1.12	.97	.82

TYPE S MOLDED SOCKETS (FIG. C)

Retainer ring mounted. Mounting hole dia., 1⅜". Black phenolic.

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S4	4	$0.97	$0.80	$0.69	$0.62	$0.52
S5	5	1.05	.87	.78	.67	.55
S6	6	1.14	.95	.82	.72	.60
S7S	7 Small	1.23	1.06	.92	.81	.67
S8	8 Octal	1.06	.87	.78	.67	.56
S9	9	.97	.81	.69	.62	.52
S11	11	1.17	.99	.86	.74	.63
S12	12	1.14	.96	.82	.72	.61
S16	16	1.62	1.34	1.17	1.02	.86
7P†	7 Min.	1.17	.99	.86	.74	.63

†Miniature.

OUR DELIVERIES ARE FAST AND

ACCURATE. TRY US FOR THAT ITEM

NO ONE ELSE HAS.

MIP MOLDED-IN-PLATE SOCKETS

Mounting plate molded in phenolic body. Contacts of copp alloy. PC contacts are ⅝" lg., with .125" tapered lead-in. Solde less wrap contacts are cadmium plated, and "tuning fork" shape for low resistance; tails 1/16" w. x ½" lg.

PC TERMINATION (FIG. D)

Amphenol No. 77-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
MIP-8W-125	8	$1.42	$1.15	$1.00	$0.89	$0.7
MIP-11W-125	11	1.60	1.33	1.14	.99	.8
MIP-20W-125	20	3.08	2.54	2.19	1.90	1.6

SOLDERLESS WRAP TERMINATION (FIG. E)

MIP-8W-500*	8	$1.42	$1.15	$1.00	$0.89	$0.7
MIP-11W-500*	11	1.60	1.33	1.14	.99	.8
MIP-8W-525†	8	1.50	1.24	1.09	.94	.7
MIP-11W-525†	11	1.64	1.37	1.18	1.04	.8

Contacts: *Standard, .016" thick; †heavy duty, .025" thick.

TYPE S SOCKETS

Same as MIP but retaining ring style.

PC TERMINATION

Amphenol No. 78-	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
S8W-125	8	$1.06	$0.87	$0.78	$0.67	$0.56
S11W-125	11	1.22	1.02	.88	.78	.66

SOLDERLESS WRAP TERMINATION

S8W-0500*	8	....	....	....	$0.78	$0.65
S11W-0500*	11	$1.45	$1.20	$1.03	.89	.78
S8W-0525†	8	....	....	....	.83	.65
S11W-0525†	11	1.53	1.28	1.12	.97	.82

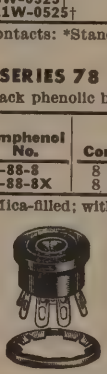
Contacts: *Standard, .016" thick; †heavy duty, .025" thick.

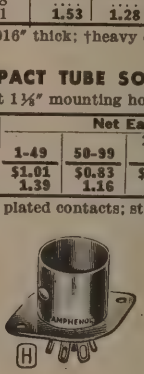
SERIES 78 COMPACT TUBE SOCKETS (FIG. F)

Black phenolic body; fit 1⅛" mounting holes on 1¼" centers.

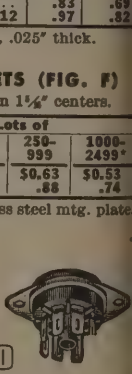
Amphenol No.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-88-8	8 Octal	$1.01	$0.83	$0.73	$0.63	$0.53
78-88-8X	8 Loctal	1.39	1.16	1.02	.88	.74

*Mica-filled; with silver plated contacts; stainless steel mtg. plate


G



H


I

MINIATURE 7- AND 9-PIN SOCKETS

Fig. G Type: Retainer ring style fits D-shaped or round hole ½" dia. **Fig. H and I Types:** Shielded types mount above chassis; unshielded, below chassis. Min. 7-pin sockets fit ⅝" hole with ⅞" mtg. centers; 9-pin sockets fit ¾" hole, 1⅛" centers.

Amph. No.	Fig.	Contacts	Net Each, Lots of 1-49	50-99	100-249	250-999	1000-2499*
78-S3S	G	3	$0.53	$0.46	$0.38	$0.33	$0.28
78-S4S	G	4	.67	.54	.48	.41	.34
78-S5S	G	5	.87	.73	.63	.54	.47
78-S6S	G	6	.92	.78	.67	.58	.49
78-7P	G	7	1.17	.99	.86	.74	.63

★LARGER QUANTITY PRICES AVAILABLE ON REQUEST



50-6A-20
50-6A-20M



50-12A-30
50-12A-30M



50-12B-10
50-12B-10M



50-12B-20

ated circuit connectors designed for minimum printed circuit
wear, low insertion force and positive contact with 1/16"
ted circuit boards. All units utilize bifurcated contacts per-
ing two flexing surfaces instead of one for positive contact.
rcated contacts are especially recommended for added contact
bility where vibration or printed circuit board irregularities
ld otherwise cause trouble. Types meeting MIL spec MIL-C-
97 are also available as indicated. **Mounting:** Available with
8" dia. holes for standard mounting, molded-in bushings or
ting bushings. **Insulator Material:** Green glass-filled diallyl
halate type SDG-F per MIL-M-14. **Contacts:** Phosphor
nze with 30 micro-inches gold finish; beryllium copper with
nicro-inches gold to meet MIL-C-21097 as specified. Contacts
" on centers. **Polarizing Keys:** Ordered separately as follows:
50-PK-1 for in-contact polarization made of diallyl phthalate;
50-PK-2 for between-contact polarization made of glass
xy. **Voltage Rating:** 830 VAC rms at sea level. **Current:** Rated
amps. **Contact Resistance:** 0.005 ohm at rated current. **Insu-
on Resistance:** 5,000 megohms. **Temperature Cycling:** 5 con-
ious cycles per Method 107B, Test Condition B. Beryllium
per, −65° C to +125° C; phosphor bronze, −65° C to −105° C.
recognized.

COMMERCIAL TYPES
SINGLE READOUT WITH .128" MTG. HOLES

der eyelet termination.

Cinch Number	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
0-6A-20	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
0-10A-20	10	2.59	2.09	1.73	1.42	1.37	1.26
0-12A-20	12	2.93	2.46	1.95	1.57	1.49	1.43
0-15A-20	15	3.42	2.72	2.29	1.85	1.73	1.63
0-18A-20	18	3.89	3.12	2.60	2.09	1.99	1.91
0-22A-20	22	4.56	3.66	3.05	2.43	2.33	2.20
0-25A-20	25	5.44	4.34	3.64	2.92	2.77	2.60

, DIP solder termination.

0-6B-10	6	$1.94	$1.55	$1.36	$1.05	$0.99	$0.94
0-10B-10	10	2.59	2.09	1.73	1.42	1.37	1.26
0-15B-10	15	3.42	2.72	2.29	1.85	1.73	1.63
0-18B-10	18	3.89	3.12	2.60	2.09	1.99	1.91
0-22B-10	22	4.56	3.66	3.05	2.43	2.33	2.20
0-25B-10	25	5.44	4.34	3.64	2.92	2.77	2.60

" DIP solder termination.

50-6S-10	6	$1.94	$1.55	$1.36	$1.05	$0.99	$0.94
50-10S-10	10	2.59	2.09	1.73	1.42	1.37	1.26
50-12S-10	12	2.93	2.46	1.95	1.57	1.49	1.43
50-15S-10	15	3.42	2.72	2.29	1.85	1.73	1.63
50-18S-10	18	3.89	3.12	2.60	2.09	1.99	1.91
50-22S-10	22	4.56	3.66	3.05	2.43	2.33	2.20
50-25S-10	25	5.44	4.34	3.64	2.92	2.77	2.60

OUBLE READOUT, .200" ROW SPACING, .128" MTG. HOLES

nventional solder eyelet termination.

50-12A-30	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
50-20A-30	10	2.59	2.09	1.73	1.42	1.37	1.26
50-24A-30	12	2.93	2.46	1.95	1.57	1.49	1.43
50-30A-30	15	3.42	2.72	2.29	1.85	1.73	1.63
50-36A-30	18	3.89	3.12	2.60	2.09	2.02	1.91
50-44A-30	22	4.56	3.66	3.05	2.43	2.33	2.20
50-50A-30	25	5.42	4.34	3.64	2.92	2.77	2.60

" DIP solder termination.

50-12B-10	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
50-20B-10	10	2.59	2.09	1.73	1.42	1.37	1.26
50-24B-10	12	2.93	2.46	1.95	1.57	1.49	1.43
50-30B-10	15	3.42	2.72	2.29	1.85	1.73	1.63
50-36B-10	18	3.89	3.12	2.60	2.09	2.02	1.91
50-44B-10	22	4.56	3.66	3.05	2.43	2.33	2.20
50-50B-10	25	5.42	4.34	3.64	2.92	2.77	2.60

/64" DIP solder termination.

50-12S-20	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
50-20S-20	10	2.59	2.09	1.73	1.42	1.37	1.26
50-24S-20	12	2.93	2.46	1.95	1.57	1.49	1.43
50-30S-20	15	3.42	2.72	2.29	1.85	1.73	1.63
50-36S-20	18	3.89	3.12	2.60	2.09	1.99	1.91
50-44S-20	22	4.56	3.66	3.05	2.43	2.33	2.20
50-50S-20	25	6.37	5.11	4.28	3.42	3.24	2.87

DOUBLE READOUT, .140" ROW SPACING, DIP SOLDER TERMINATION

.128" mounting holes.

Cinch No.	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-12S-30-2	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
50-20S-30-2	10	2.59	2.09	1.73	1.42	1.37	1.26
50-24S-30-2	12	2.93	2.46	1.95	1.57	1.49	1.43
50-30S-30-2	15	3.42	2.72	2.29	1.85	1.73	1.63
50-36S-30-2	18	3.89	3.12	2.60	2.09	2.02	1.91
50-44S-30-2	22	4.56	3.66	3.05	2.43	2.33	2.20
50-50S-30-2	25	5.42	4.34	3.64	2.92	2.77	2.60
Without mounting ears.							
50-12S-30-1	6	$1.94	$1.55	$1.33	$1.05	$0.99	$0.94
50-20S-30-1	10	2.59	2.09	1.73	1.42	1.37	1.26
50-24S-30-1	12	2.93	2.46	1.95	1.57	1.49	1.43
50-30S-30-1	15	3.42	2.72	2.29	1.85	1.73	1.63
50-36S-30-1	18	3.89	3.12	2.60	2.09	2.02	1.91
50-44S-30-1	22	4.56	3.66	3.05	2.43	2.33	2.20
50-50S-30-1	25	5.42	4.34	3.64	2.92	2.77	2.60

MIL-C-21097 PC CONNECTORS
SINGLE READOUT

Solder eyelet termination, .128" mounting holes.

Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
6A-20M	1-001	6	$2.48	$1.99	$1.65	$1.36	$1.30	$1.21
10A-20M	1-037	10	3.46	2.77	2.33	1.88	1.76	1.66
15A-20M	1-073	15	4.68	3.75	3.13	2.50	2.40	2.26
18A-20M	1-109	18	5.44	4.37	3.64	2.91	2.77	2.60
22A-20M	1-145	22	6.42	5.14	4.28	3.42	3.27	3.09
Solder eyelet termination, molded-in bushings.								
6A-20MB	1-004	6	$5.49	$4.39	$3.67	$2.94	$2.79	$2.43
10A-20MB	1-040	10	6.37	5.11	4.28	3.42	3.24	2.87
15A-20MB	1-076	15	7.49	5.23	5.02	4.06	3.83	3.41
18A-20MB	1-112	18	8.14	6.54	5.46	4.36	4.14	3.69
22A-20MB	1-148	22	9.01	7.23	6.03	4.83	4.58	4.14
Solder eyelet termination, floating bushings.								
6A-20MFB	1-007	6	$3.27	$2.63	$2.19	$1.74	$1.65	$1.58
10A-20MFB	1-043	10	4.24	3.41	2.85	2.26	2.17	2.06
15A-20MFB	1-079	15	5.46	4.37	3.66	2.93	2.79	2.65
18A-20MFB	1-115	18	6.21	4.98	4.14	3.34	3.14	2.99
22A-20MFB	1-151	22	7.16	5.74	4.80	3.85	3.67	3.46

DOUBLE READOUT, .200" ROW SPACING

Solder eyelet termination, .128" mounting holes.

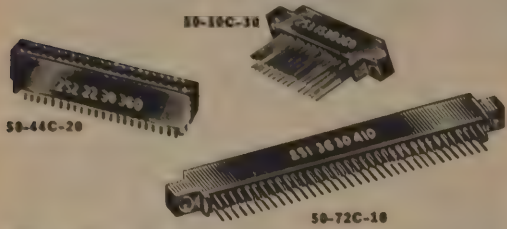
Cinch Number 50-	MIL No. M21097/	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
12A-30M	1-019	6	$2.48	$1.99	$1.65	$1.36	$1.30	$1.21
20A-30M	1-055	10	3.46	2.77	2.33	1.88	1.76	1.66
30A-30M	1-091	15	4.68	3.75	3.13	2.50	2.40	2.26
36A-30M	1-127	18	5.44	4.34	3.64	2.92	2.77	2.60
44A-30M	1-163	22	6.42	5.14	4.28	3.43	3.27	3.09
Solder eyelet termination, molded-in bushings.								
12A-30MB	1-022	6	$5.49	$4.39	$3.67	$2.94	$2.79	$2.43
20A-30MB	1-058	10	6.36	5.11	4.28	3.42	3.24	2.87
30A-30MB	1-094	15	7.49	6.02	5.02	4.06	3.83	3.41
36A-30MB	1-130	18	8.14	6.54	5.46	4.36	4.14	3.69
44A-30MB	1-166	22	9.01	7.23	6.03	4.83	4.58	4.14
Solder eyelet termination, floating bushings.								
12A-30MFB	1-025	6	$3.27	$2.63	$2.19	$1.74	$1.65	$1.58
20A-30MFB	1-061	10	4.24	3.41	2.85	2.26	2.17	2.06
30A-30MFB	1-097	15	5.46	3.47	3.66	2.93	2.79	2.65
36A-30MFB	1-133	18	6.21	4.98	4.14	3.34	3.14	2.99
44A-30MFB	1-169	22	7.16	5.74	4.80	3.85	3.67	3.46
Dip solder termination, .128" mounting holes.								
12B-10M	1-028	6	$2.48	$1.99	$1.65	$1.36	$1.30	$1.21
20B-10M	1-064	10	3.46	2.77	2.33	1.88	1.76	1.66
30B-10M	1-100	15	4.68	3.75	3.13	2.97	2.40	2.26
36B-10M	1-136	18	5.44	4.34	3.64	2.92	2.77	2.60
44B-10M	1-172	22	6.42	5.14	4.28	3.43	3.27	3.09

ACCESSORIES FOR EDGE CONNECTORS
POLARIZING KEYS

Cinch No.	Polarization	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-PK-1	In-contact	$0.123	$0.101	$0.086	$0.067	$0.065	$0.06
50-PK-2	Between contact	.104	.084	0.84	.061	.057	.053
50-PK-2M	Between contact—MIL type	.104	.084	.084	.061	.057	.053

DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

PRECISION DOUBLE READOUT EDGE CONNECTORS WITH .100" CONTACT CTRS., 1/16" BOARDS



Unique bifurcated cantilever contact construction provides simple, dependable design capable of handling 1/16" thick printed circuit boards. Contacts pre-loaded against an insulator stop to provide gap uniformity and assure rapid build-up of force to the PC board. Contacts are high-tensile brass alloy, plated with 30 micro-inches of gold over 50 micro-inches of copper in contact area and 10 micro-inches minimum gold on remainder of contact. Insulation, glass-filled diallyl phthalate, Type SDG-F per MIL-M-14. **Polarizing Key: No. 50-PK-3,** ordered separately. **Card Guide: No. 50-GP-1,** must also be ordered separately.

WITH CONVENTIONAL CINCH CONTACT NUMBERING

Solder termination.

Cinch No.*	Contact Pos.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30C-10	15	$4.88	$3.89	$3.27	$2.60	$2.47	$2.37
50-44C-10	22	5.74	4.58	3.84	3.07	2.91	2.77
50-72C-10	36	7.46	5.98	4.99	4.02	3.78	3.60
50-80C-10	40	7.88	6.32	5.25	4.19	3.97	3.81
50-86C-10	43	8.38	6.68	5.60	4.47	4.22	4.06
50-100C-10	50	9.20	7.35	6.12	4.92	4.67	4.40

*To order dip solder terminals, change suffix −10 to −20; same prices apply.

.025" sq. Wire Wrap termination.

50-30C-30	15	$4.95	$3.97	$3.35	$2.69	$2.55	$2.43
50-44C-30	22	5.82	4.67	3.89	3.14	2.98	2.85
50-72C-30	36	7.53	6.06	5.06	4.09	3.85	3.67
50-80C-30	40	7.94	6.39	5.33	4.30	4.08	3.86
50-86C-30	43	8.45	6.76	5.66	4.55	4.31	4.11
50-100C-30	50	9.36	7.47	6.25	5.00	4.73	4.50

WITH REVERSED CONTACT NUMBERING

Solder termination.

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-30C-10-1	15	$4.88	$3.89	$3.27	$2.60	$2.47	$2.37
50-44C-10-1	22	5.74	4.58	3.84	3.07	2.91	2.77
50-72C-10-1	36	7.46	5.98	4.99	4.02	3.78	3.60
50-80C-10-1	40	7.88	6.32	5.25	4.19	3.97	3.81
50-86C-10-1	43	8.38	6.68	5.60	4.47	4.22	4.06
50-100C-10-1	50	9.20	7.35	6.12	4.92	4.67	4.40

*To order dip solder tails, change −10 to −20; same prices apply.

.025" sq. Wire Wrap termination.

50-30C-30-1	15	$4.95	$3.97	$3.35	$2.69	$2.55	$2.43
50-44C-30-1	22	5.82	4.67	3.89	3.14	2.98	2.85
50-72C-30-1	36	7.53	6.06	5.06	4.09	3.85	3.67
50-80C-30-1	40	7.94	6.39	5.33	4.30	4.08	3.86
50-86C-30-1	43	8.45	6.76	5.66	4.55	4.31	4.11
50-100C-30-1	50	9.36	7.47	6.25	5.00	4.73	4.50

CARD GUIDE FOR .100" AND .156" TYPES

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-GP-1	$0.497	$0.402	$0.341	$0.278	$0.263	$0.252

POLARIZING KEY

50-PK-3	$0.123	$0.101	$0.086	$0.06	$0.058	$0.054

.156" CONTACT CENTERS CARDCON™ P.C. DOUBLE READOUT EDGE CONNECTORS FOR 1/16" BOARDS

Ideal for applications involving vibration or board irregularities. Bifurcated, semi-bellows contacts provide added contact reliability. **Voltage Rating:** 1800 VAC rms at sea level. **Current Rating:** 5 amps. **Contact Resistance:** 0.006 ohms max. **Insulation Resistance:** 5000 megohms. **Contact Material:** Alloy 260 spring brass with 50 micro-inches copper and 20 micro-inches gold in contacting area. Gold flash on solder tails. **Polarizing Key:** No. 50-PK-2 Between contacts or 50-PK-4 In-contact ordered separately. **Mounting:** Ears with hole for 4-40 screw or no mounting ears.

Cinch No.	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
.200" BETWEEN ROWS— PLAIN MOUNTING HOLE—.156" LONG TAIL							
50-12SN-1	6	$1.29	$1.03	$0.86	$0.69	$0.65	$0.62
50-20SN-1	10	1.85	1.47	1.23	.99	.93	.88
50-24SN-1	12	2.03	1.62	1.35	1.08	1.03	.98
50-30SN-1	15	2.35	2.04	1.70	1.37	1.29	1.23
50-36SN-1	18	2.60	2.08	1.73	1.39	1.31	1.25
50-44SN-1	22	2.87	2.29	1.91	1.53	1.45	1.38
50-48SN-1	24	3.25	2.59	2.15	1.71	1.63	1.54
50-50SN-1	25	3.29	2.63	2.19	1.75	1.67	1.58
.140" BETWEEN ROWS— PLAIN MOUNTING HOLE—.125" LONG TAIL							
50-12SN-2	6	$1.29	$1.03	$0.86	$0.69	$0.65	$0.62
50-20SN-2	10	1.85	1.47	1.23	.99	.93	.88
50-24SN-2	12	2.03	1.62	1.35	1.08	1.03	.98
50-30SN-2	15	2.35	2.04	1.70	1.37	1.29	1.23
50-36SN-2	18	2.60	2.08	1.73	1.39	1.31	1.25
50-44SN-2	22	2.87	2.29	1.91	1.53	1.45	1.38
50-48SN-2	24	3.25	2.59	2.15	1.71	1.63	1.54
50-50SN-2	25	3.29	2.63	2.19	1.75	1.67	1.58
.200" BETWEEN ROWS—WITHOUT EARS—.156" LONG TAIL							
50-12SN-3	6	$1.29	$1.03	$0.86	$0.69	$0.65	$0.62
50-20SN-3	10	1.85	1.47	1.23	.99	.93	.88
50-24SN-3	12	2.03	1.62	1.35	1.08	1.03	.98
50-30SN-3	15	2.35	2.04	1.70	1.37	1.29	1.23
50-36SN-3	18	2.60	2.08	1.73	1.39	1.31	1.25
50-44SN-3	22	2.87	2.29	1.91	1.53	1.45	1.38
50-48SN-3	24	3.25	2.59	2.15	1.71	1.63	1.54
50-50SN-3	25	3.29	2.63	2.19	1.75	1.67	1.58
.140" BETWEEN ROWS—WITHOUT EARS—.125" LONG TAIL							
50-12SN-4	6	$1.29	$1.03	$0.86	$0.69	$0.65	$0.62
50-20SN-4	10	1.85	1.47	1.23	.99	.93	.88
50-24SN-4	12	2.03	1.62	1.35	1.08	1.03	.98
50-30SN-4	15	2.35	2.04	1.70	1.37	1.29	1.23
50-36SN-4	18	2.60	2.08	1.73	1.39	1.31	1.25
50-44SN-4	22	2.87	2.29	1.91	1.53	1.45	1.38
50-48SN-4	24	3.25	2.59	2.15	1.71	1.63	1.54
50-50SN-4	25	3.29	2.63	2.19	1.75	1.67	1.58

WIRE WRAP TERMINAL SERIES .156" ON CENTERS

Single-level Wire Wrap tails .031" x .062".

Cinch No.*	Contact Pos.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
50-20E-10-1	10 20	$4.23	$3.39	$2.84	$2.26	$2.16	$2.05
50-30E-10-1	15 30	4.40	3.52	2.96	2.38	2.25	2.14
50-36E-10-1	18 36	4.92	3.91	3.31	2.65	2.49	2.38
50-44E-10-1	22 44	5.87	4.73	3.91	3.14	2.99	2.85
50-50E-10-1	25 50	6.14	4.92	4.12	3.31	3.12	2.96
50-60E-10-1	30 60	6.72	5.39	4.50	3.62	3.43	3.24

Also available in 2 and 3 levels; same prices apply. To order: change **E** to **F** for 2-level or to **G** for 3-level.

WITH TAIL TWISTED BELOW INSULATOR

Single-level Wire Wrap tails .031" x .062".

50-44E-10	22 44	$5.87	$4.73	$3.91	$3.14	$2.99	$2.85

Double-level Wire Wrap tails .031" x .062".

50-44F-10	22 44	$5.87	$4.73	$3.91	$3.14	$2.99	$2.85

Triple-level Wire Wrap tails .031" x .062".

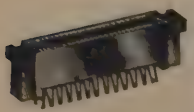
50-44G-10	22 44	$5.87	$4.73	$3.91	$3.14	$2.99	$2.85

.125" ON CENTERS

Double-level Wire Wrap tails .025" x .025".

50-80W-20	44	$11.34	$9.09	$7.60	$6.07	$5.77	$5.46

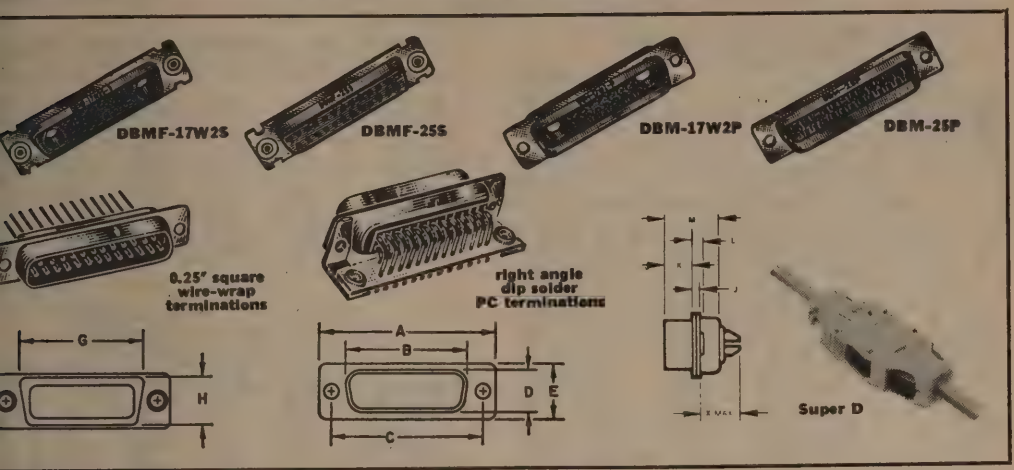
TYKON MINIATURE EDGE CONNECTORS



High density edge connectors with .050" centers for use with double-sided .062" printed circuit boards. Solder termination. Insulator is diallyl phthalate, type SDG-F per MIL-M-14F. Contacts are beryllium copper with .00003" gold plate per MIL-G-45204 Type II. Carbon steel mounting clip for use in semi-flush printed circuit mounting, and cellulose acetate polarizing key available as separate items.

Cinch Number 50-	Cont. Pos.	No. of Cont.	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500 Up
12A-40	6	12	$5.40	$4.31	$3.60	$2.89	$2.73	$2.60
20A-40	10	20	6.64	5.32	4.45	3.56	3.38	3.21
30A-40	15	30	8.21	6.59	5.48	4.37	4.16	3.96
40A-40	20	40	9.45	7.81	6.51	5.21	4.97	4.71
50A-40	25	50	11.31	9.07	7.53	6.07	5.73	5.44
MC	Mounting Clip		.391	.286	.25	.235	.215	.185
PK	Polarizing Key		.304	.241	.225	.208	.193	.177

★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.



e series in five basic shell sizes cover a full array of contact configurations for most and panel applications. Keystone shape assures proper polarization. All series rmate and intermount. Friction coupling, locking accessories and floating mount s are available. Contacts are rated 5 amps (1.5 amps, MIL). Cadmium-plated steel has yellow chromate coating. Pins and sockets are #20 AWG; coaxial contacts and -voltage contacts available.

ch No. by hell Size	Dimension Key, Inches										
	A	B‡	C†	D‡	E	G	H	J	K	L	M
E*-9P	1.213	.697	.984	.360	.494	.759	.422	.030	.236	.045	.422
E*-9S	1.213	.640	.984	.308	.494	.759	.422	.030	.243	.045	.429
A*-15P	1.541	1.025	1.312	.360	.494	1.083	.422	.030	.236	.045	.422
A*-15S	1.541	.968	1.312	.308	.494	1.083	.422	.030	.243	.045	.429
B*-25P	2.088	1.583	1.852	.378	.494	1.625	.422	.030	.231	.060	.426
B*-25S	2.088	1.508	1.852	.308	.494	1.625	.422	.030	.243	.045	.429
C*-37P	2.729	2.231	2.500	.378	.494	2.272	.422	.039	.231	.060	.426
C*-37S	2.729	2.156	2.500	.308	.494	2.272	.422	.030	.243	.045	.429
D*-50P	2.635	2.127	2.406	.484	.605	2.178	.534	.039	.231	.060	.426
D*-50S	2.635	2.062	2.406	.420	.605	2.178	.534	.030	.243	.045	.429

fer to ordering code for tolerance type designation. †.120" dia. holes, standard units; " dia., float mount units. ‡Measured as outside dimensions at bottom of the draw.

Type	X Max., Inches
Original	.312
Mark I	.390
Mark II	.312
Mark III	.375
Mark IV	.375

MARK III ROYAL "D" CONNECTOR

p-in, removable crimp contacts with rear release assembly. tacts not interchangeable but units will mate and are inter- ngeable with all other D Series. Insulator diallyl phthalate, s fiber filled, per MIL-M-14, Type GD1-30F, royal purple r, monobloc construction. **Contacts:** Pin, leaded copper, gold e over nickel plate; socket, copper alloy, gold plate over nickel e with stainless steel sleeves.

Cinch Number	Net Each, Lots of				
	1-24	25-49	50-99	100-249	250-499
EMA-9P	$10.76	$ 9.78	$ 8.29	$ 6.63	$ 6.07
EMAF-9P	11.27	10.24	8.68	6.95	6.39
EMA-9S	10.98	9.98	8.46	6.77	6.18
EMAF-9S	11.44	10.40	8.81	7.05	6.49
AMA-15P	15.01	13.64	11.57	9.26	8.48
AMAF-15P	15.52	14.12	11.96	9.57	8.80
AMA-15S	15.20	13.81	11.70	9.36	8.59
AMAF-15S	15.69	14.26	12.09	9.68	8.91
BMA-25P	22.47	20.43	17.31	13.84	12.70
BMAF-25P	22.97	20.88	17.70	14.16	13.01
BMA-25S	22.63	20.57	17.43	13.95	12.80
BMAF-25S	23.15	21.05	17.83	14.26	13.12
CMA-37P	31.16	28.32	24.01	19.21	17.61
CMAF-37P	31.67	28.80	24.41	19.52	17.93
CMA-37S	31.34	28.49	24.14	19.31	17.72
CMAF-37S	31.84	28.94	24.53	19.63	18.03
DMA-50P	40.01	36.38	30.83	24.67	22.62
DMAF-50P	40.53	36.85	31.23	24.98	22.94
DMA-50S	40.20	36.54	30.97	24.77	22.73
DMAF-50S	40.67	37.00	31.63	25.09	23.04

MARK III MIL-C-24308 VERSIONS

Cinch Number	Description	Net Each, Lots of				
		1-24	25-49	50-99	100-249	250-499
24308/2-1	DEMA-9S	$12.41	$11.28	$ 9.56	$ 7.65	$ 7.02
24308/2-2	DAMA-15S	17.35	15.78	13.37	10.69	9.81
24308/2-3	DBMA-25S	26.24	23.86	20.22	16.17	14.83
24308/2-4	DCMA-37S	36.71	33.37	28.28	22.62	20.75
24308/2-5	DDMA-50S	47.63	43.31	36.70	29.36	26.94
24308/4-1	DEMA-9P	12.26	11.15	9.44	7.54	6.91
24308/4-2	DAMA-15P	17.18	15.62	13.23	10.59	9.71
24308/4-3	DBMA-25P	26.08	23.70	20.09	16.07	14.73
24308/4-4	DCMA-37P	36.52	33.21	28.14	22.52	20.65
24308/4-5	DDMA-50P	47.43	43.12	36.54	29.24	26.82

ORIGINAL "D" CONNECTORS

Two-piece construction ut lizes two-piece Nylon insulator material. **Temp. Range:** −65° F to +250° F. **Contacts:** Pin, gold plate over nickel-plated brass; socket, gold plate over nickel-plated phosphor bronze.

Cinch Number	Net Each, Lots of				
	1-24	25-49	50-99	100-249	250-499
DE-9P	$ 1.93	$ 1.74	$1.47	$1.16	$1.09
DE-9S	2.77	2.48	2.06	1.65	1.52
DEF-9P	3.04	2.77	2.29	1.86	1.67
DEF-9S	3.88	3.47	2.91	2.35	2.14
DA-15P	2.72	2.45	2.05	1.63	1.51
DA-15S	3.99	3.60	3.00	2.41	2.20
DAF-15P	3.85	3.46	2.89	2.29	2.12
DAF-15S	5.06	4.58	3.87	3.11	2.85
DB-25P	3.92	3.65	3.00	2.36	2.16
DB-25S	6.12	5.50	4.57	3.68	3.39
DBF-25P	5.16	4.62	3.89	3.12	2.86
DBF-25S	7.33	6.62	5.51	4.46	4.05
DC-37P	5.30	4.78	3.97	3.21	2.93
DC-37S	8.65	7.79	6.49	5.20	4.78
DCF-37P	6.55	5.90	4.94	3.93	3.63
DCF-37S	9.87	8.91	7.42	5.95	5.48
DD-50P	6.91	6.22	5.18	4.17	3.83
DD-50S	11.40	10.26	8.56	6.81	6.26
DDF-50P	8.13	7.31	6.13	4.93	4.50
DDF-50S	12.62	11.38	9.49	7.59	6.96

ORIGINAL "D" CONNECTORS .025" X .025" WIRE WRAP TAILS, ⅜" LONG

Cinch Number	Net Each, Lots of				
	1-24	25-49	50-99	100-249	250-499
DE-9P-F179	$ 3.12	$ 2.52	$ 2.20	$ 1.94	$ 1.86
DE-9S-F179	5.63	4.50	3.75	3.00	2.77
DA-15P-F179	4.04	3.21	2.83	2.52	2.39
DA-15S-F179	7.71	6.14	5.11	4.09	3.77
DB-25P-F179	6.32	5.03	4.37	3.65	3.47
DB-25S-F179	8.94	7.21	6.30	5.93	5.28
DC-37P-F179	8.60	6.81	6.05	5.22	4.94
DC-37S-F179	11.90	9.56	9.11	8.64	8.18
DD-50P-F179	10.20	8.14	7.17	6.46	6.12
DD-50S-F179	15.69	12.53	11.91	11.23	10.49

UE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

D-SUBMINIATURE CONNECTORS (CONT'D)

MARK III CONTACTS (D-MA)

Crimp contacts, commercial and military types.

Cinch Number			Std. Pkg.	Net Each, Lots 100-4999	Net Each, Lots 5000-24,999
Commercial	Military	Type			
330-5291-000	.....	Pin	100	$0.213	$0.182
031-1007-000	.....	Socket	100	.321	.271
.....	M-24308/11-1	Pin	100	.229	.196
.....	M-24308/10-1	Socket	100	.336	2.84

MARK I GOLDEN "D" CONNECTORS

Monobloc insulator design of glass-filled diallyl phthalate per MIL-M-14F, Type SGD. **Temperature Range:** −65° F to +300° F. **Contacts:** Pin contacts, gold plate over nickel-plated brass; female contacts, gold plate over nickel-plated brass.

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DEM-9P	$ 3.81	$ 3.42	$ 2.86	$ 2.28	$ 2.08
DEM-9S	5.22	4.71	3.93	3.17	2.90
DEMF-9P	4.93	4.45	3.66	2.97	2.71
DEMF-9S	6.33	5.72	4.77	3.83	3.52
DAM-15P	5.45	4.93	4.08	3.28	3.00
DAM-15S	7.74	6.96	5.80	4.62	4.27
DAMF-15P	6.56	5.92	4.95	3.94	3.64
DAMF-15S	8.86	7.96	6.64	5.30	4.86
DBM-25P	8.03	7.22	6.05	4.81	4.46
DBM-25S	11.88	10.68	8.93	7.12	6.54
DBMF-25P	9.23	8.32	6.95	5.56	5.10
DBMF-25S	13.12	11.81	9.83	7.86	7.22
DCM-37P	10.96	9.45	7.91	6.70	6.14
DCM-37S	16.95	15.24	12.69	10.14	9.32
DCMF-37P	12.42	11.18	9.32	7.48	6.82
DCMF-37S	18.15	16.32	13.60	10.88	10.02
DDM-50P	14.46	13.05	10.86	8.72	7.98
DDM-50S	22.16	19.92	16.66	13.13	12.21
DDMF-50P	15.72	14.18	11.80	9.43	8.68
DDMF-50S	23.42	21.00	17.58	14.04	12.87

MARK I GOLDEN "D" CONNECTORS—RIGHT ANGLE PC CONTACTS

Pins are 0.040" nominal diameter and extend 0.093" below the 90° bracket. A terminal alignment strip, held on by means of the brackets, is supplied with each connector.

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DEM-9PA	$11.10	$10.91	$ 9.93	$ 8.94	$ 7.96
DAM-15PA	15.74	14.31	11.93	10.86	9.95
DBM-25PA	23.53	21.44	19.49	17.52	15.71
DCM-37PA	25.93	23.55	22.02	20.42	19.87

MARK I GOLDEN "D" CONNECTORS WITH RAYCHEM SOLDER PAK TERMINATIONS

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
CR-DEM-9S	$ 3.80	$ 3.47	$ 2.96	$ 2.37	$ 2.17
CR-DEM-9P	5.16	4.73	4.02	3.21	2.93
CR-DAM-15S	7.35	6.75	5.72	4.57	4.22
CR-DAM-15P	5.43	4.98	4.24	3.39	3.11
CR-DBM-25S	11.29	10.35	8.72	7.02	6.44
CR-DBM-25P	7.60	6.98	5.92	4.74	4.34
CR-DCM-37S	17.07	15.65	13.28	10.62	9.74
CR-DCM-37P	11.32	10.39	8.80	7.04	6.46
CR-DDM-50S	20.09	18.43	15.63	12.50	11.47
CR-DDM-50P	15.39	14.11	11.97	9.58	8.78

MARK IV BURGUN "D" CONNECTORS

"D" connectors for commercial applications where economy is an important factor. Rear release, crimp, snap-in contacts that are readily inserted and removed with a simple plastic tool. Two-piece, glass-filled nylon insulator. Copper alloy contacts with 20 microinches of gold over nickel. Uses same shell as other series.

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
WITH CONTACTS					
DEC-9P	$1.92	$1.71	$1.73	$1.09	$1.05
DEC-9S	2.60	2.35	1.85	1.52	1.42
DAC-15P	2.56	2.29	1.83	1.47	1.39
DAC-15S	3.66	3.29	2.61	2.09	2.02
DBC-25P	3.60	3.21	2.58	2.05	1.96
DBC-25S	5.32	4.76	3.84	3.11	2.91
DCC-37P	4.95	4.44	3.59	2.89	2.73
DCC-37S	7.60	6.82	5.56	4.46	4.17
DDC-50P	6.20	5.57	4.50	3.62	3.41
DDC-50S	9.66	8.67	7.09	5.70	5.24
WITHOUT CONTACTS					
DEC-9P-FO	$1.05	$0.94	$0.77	$0.63	$0.57
DEC-9S-FO	1.05	.94	.77	.63	.57
DAC-15P-FO	1.15	1.03	.83	.67	.61
DAC-15S-FO	1.15	1.03	.83	.67	.61
DBC-25P-FO	1.28	1.10	.97	.74	.67
DBC-25S-FO	1.19	1.04	.88	.69	.65
DCC-37P-FO	1.53	1.33	1.10	.89	.84
DCC-37S-FO	1.46	1.29	1.09	.86	.78
DDC-50P-FO	1.63	1.46	1.16	.94	.89
DDC-50S-FO	1.50	1.32	1.14	.88	.80

ORIGINAL "D" CONNECTORS WITH .040" DIAMETER PRINTED CIRCUIT TERMINALS

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DE-9PV	$ 2.91	$ 2.48	$ 2.17	$ 1.91	$ 1.83
DE-9SV	4.07	3.46	3.07	2.62	2.51
DA-15PV	4.04	3.64	3.28	2.89	2.72
DA-15SV	5.80	5.23	4.62	4.04	3.87
DB-25PV	8.98	8.10	6.77	5.43	4.97
DB-25SV	12.87	11.58	9.68	7.75	7.10
DC-37PV	9.17	7.79	7.02	6.22	5.95
DC-37SV	13.94	11.81	10.54	9.23	8.78
DD-50PV	12.13	10.29	9.27	8.23	7.86
DD-50SV	18.51	15.70	13.96	12.25	11.72

ORIGINAL "D" CONNECTORS WITH RAYCHEM SOLDER PAK TERMINATION

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
CR-DE-9S	$ 2.87	$ 2.64	$2.25	$1.80	$1.63
CR-DE-9P	1.99	1.83	1.55	1.25	1.16
CR-DA-15S	4.16	3.83	3.24	2.60	2.40
CR-DA-15P	2.85	2.62	2.23	1.79	1.62
CR-DB-25S	11.29	10.35	8.76	7.02	6.44
CR-DB-25P	4.10	3.77	3.20	2.56	2.35
CR-DC-37S	9.14	8.38	7.11	5.69	5.21
CR-DC-37P	5.61	5.16	4.36	3.50	3.21
CR-DD-50S	11.97	10.99	9.32	7.45	6.82
CR-DD-50P	7.31	6.70	5.69	4.55	4.17

MARK I GOLDEN "D" COAXIAL AND HIGH VOLTAGE CONNECTORS

Includes solder type #20 AWG contacts assembled, but no coaxial or high-voltage contacts (ordered separately, see below)

Cinch Number	Number of Cavities	Number of Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DEM-5W1P	1	4	$3.27	$2.92	$2.47	$1.96	$1.83
DEM-5W1S	1	4	3.75	3.38	2.82	2.26	2.06
DAM-3W3P	3	None	2.52	2.27	1.91	1.53	1.40
DAM-3W3S	3	None	2.52	2.27	1.91	1.53	1.40
DAMF-3W3S	3	None	3.64	3.29	2.77	2.20	2.02
DAM-11W1P	1	10	4.71	4.25	3.52	2.85	2.60
DAM-11W1S	1	10	5.88	5.30	4.46	3.53	3.27
DAMF-11W1P	1	10	5.82	5.23	4.40	3.50	3.22
DAMF-11W1S	1	10	7.02	6.30	5.25	4.32	3.88
DAM-7W2P	2	5	3.57	3.25	2.72	2.17	1.99
DAM-7W2S	2	5	4.19	3.81	2.17	2.52	2.31
DAMF-7W2S	2	5	5.30	4.78	3.97	3.21	2.92
DBM-13W3P	3	10	4.99	4.50	3.77	2.99	2.78
DBM-13W3S	3	10	6.17	5.56	4.62	3.74	3.42
DBM-9W4P	4	5	3.89	3.48	2.91	2.35	2.16
DBM-9W4S	4	5	4.49	4.04	3.39	2.71	2.48
DBMF-9W4P	4	5	5.11	4.58	3.87	3.08	2.85
DBMF-9W4S	4	5	5.72	5.16	4.29	3.45	3.17
DBM-17W2P	2	15	6.09	5.49	4.55	3.65	3.38
DBM-17W2S	2	15	7.86	7.09	5.92	4.75	4.37
DBMF-17W2P	2	15	7.31	6.61	5.51	4.45	4.05
DBMF-17W2S	2	15	9.12	8.22	6.81	5.49	5.02
DBM-21W1P	1	20	7.21	6.47	5.43	4.31	3.96
DBM-21W1S	1	20	9.57	8.63	7.21	5.76	5.27
DCM-13W6P	6	7	4.69	4.23	3.52	2.82	2.60
DCM-13W6S	6	7	5.51	4.97	4.13	3.31	3.04

COAXIAL AND HIGH VOLTAGE CONTACTS

Use with the above coaxial and high-voltage shell assemblies. **Prefix: 53740**—Coaxial straight solder male; **53741**—Coaxial right angle solder male; **53742**—Coaxial straight solder receptacle; **53743**—Coaxial right angle solder receptacle; **53744**—High-voltage male; **53745**—High-voltage receptacle.

Cinch Number	For Cable RG-	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DM-53740-5000†	196/U	$3.12	$2.89	$2.61	$2.29	$2.01
DM-53740-5001	187, 188/U	3.13	2.92	2.62	2.31	2.02
DM-53740-5002	195/U	3.21	2.98	2.68	2.38	2.06
DM-53740-5008	196/U	3.13	2.92	2.62	2.31	2.02
DM-53741-5000	196/U	3.51	3.27	2.93	2.59	2.26
DM-53741-5001	187, 188/U	3.89	3.61	3.25	2.88	2.51
DM-53742-5000	196/U	3.51	3.27	2.93	2.59	2.26
DM-53742-5001	187, 188/U	3.41	3.17	2.85	2.52	2.20
DM-53742-5002	195/U	3.95	3.65	3.29	2.92	2.54
DM-53742-5004	58/U	4.23	3.92	3.51	3.12	2.82
DM-53743-5000	196/U	4.40	4.08	3.66	3.25	2.83
DM-53743-5001	187, 188/U	4.32	4.01	3.60	3.19	2.78
DM-53744-0000‡	#20 wire	3.23	2.07	1.86	1.64	1.43
DM-53744-5000*	#20 wire	3.16	2.94	2.64	2.33	2.04
DM-53745-0000‡	#20 wire	2.26	2.09	1.88	1.66	1.45
DM-53745-5000*	#20 wire	3.47	3.11	2.78	2.47	2.16

*Right-angle. †Short type plug. ‡Straight.

DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

D-SUBMINIATURE CONNECTORS (CONT'D)

"DATAPHONE" CONNECTORS AND HOODS

ilators are diallyl phthalate per MIL-M-14. Type GDI-30. ds black phenolic, fit plug or socket connector.

Cinch Number	Description	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
19603-404	15-cont. sckt.	$ 9.34	$ 8.56	$ 7.85	$ 7.01	$ 6.24
19604-433	25-cont. sckt.	15.19	13.90	12.64	11.40	10.12
19603-403	15-pin plug	4.31	4.05	3.65	3.27	3.13
19604-432	25-pin plug	5.95	5.56	4.99	4.44	4.23
51225-1	15-size hood	2.19	1.96	1.59	1.45	1.35
51226-1A	25-size hood	2.42	2.04	1.62	1.50	1.38

SUPER D CONNECTOR AND ADAPTER SYSTEMS

cable-to-cable and cable-to-panel applications in computers, pheral equipment, medical equipment, instrumentation, cable mblies, etc. Fast solderless IDC termination; no wire prepa- on or stripping. Glass-filled polyester hoods cover 9, 15, 25, 37 contact Super D connectors that mate with each other and ting D type connectors. Hoods are available with latches to connectors together, or, they may be fastened with screws.

CONNECTORS

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
WITH MOUNTING HOLES					
E-9P	$1.68	$1.46	$1.24	$0.99	$0.91
E-9S	1.64	1.43	1.21	.97	.89
A-15P	2.29	1.94	1.64	1.31	1.21
A-15S	2.17	1.89	1.60	1.28	1.17
B-25P	3.10	2.70	2.29	1.83	1.68
B-25S	3.01	2.61	2.21	1.77	1.63
C-37P	4.19	3.65	3.09	2.47	2.27
C-37S	4.08	3.55	3.01	2.41	2.21
WITH MOUNTING HOLES AND LATCHING BLOCKS					
E-9P-LB	$1.70	$1.48	$1.25	$1.00	$0.92
E-9S-LB	1.66	1.46	1.23	.98	.90
A-15P-LB	2.30	1.95	1.66	1.33	1.22
A-15S-LB	2.19	1.90	1.61	1.29	1.18
B-25P-LB	3.12	2.71	2.30	1.84	1.69
B-25S-LB	3.04	2.64	2.24	1.79	1.65
C-37P-LB	4.23	3.68	3.12	2.49	2.29
C-37S-LB	4.09	3.56	3.02	2.42	2.22
WITH 4-40 THREADED BUSHINGS					
E-9P-TB	$2.41	$2.10	$1.78	$1.42	$1.30
E-9S-TB	2.36	2.05	1.74	1.39	1.27
A-15P-TB	2.94	2.56	2.17	1.73	1.59
A-15S-TB	2.88	2.51	2.12	1.70	1.56
B-25P-TB	3.82	3.33	2.81	2.25	2.07
B-25S-TB	3.75	3.26	2.76	2.21	2.03
C-37P-TB	4.90	4.26	3.61	2.89	2.65
C-37S-TB	4.78	4.16	3.53	2.82	2.59
TH 4-40 THREADED BUSHINGS AND LATCHING BLOCKS					
E-9P-LB-1	$2.90	$2.52	$2.13	$1.71	$1.57
E-9S-LB-1	2.86	2.48	2.10	1.68	1.54
A-15P-LB-1	3.45	3.00	2.54	2.03	1.87
A-15S-LB-1	3.41	2.97	2.52	2.01	1.85
B-25P-LB-1	4.34	3.77	3.20	2.56	2.33
B-25S-LB-1	4.23	3.68	3.12	2.49	2.08
C-37P-LB-1	5.45	4.74	4.02	3.21	2.95
C-37S-LB-1	5.27	4.58	3.88	3.11	2.85

ACCESSORIES

Cinch Number	Description	Net Each, Lots of 1-24	25-49	50-99
SD-LB	Latch block	$0.357	$0.311	$0.263
SD-WC9	Wire cover	.28	.244	.207
SD-WC15*	Wire cover	.284	.247	.21
SD-WC25*	Wire cover	.29	.252	.213
SD-WC37*	Wire cover	.295	.257	.218
SD-4-40(3/4)	4-40 screws	.036	.031	.026
SD-LB-060	Latch block#	1.53	1.30	1.10
SD-LB-080	Latch block	1.53	1.30	1.10

Two required per connector. #Includes 2 blocks, 2 screws with ckwashers; number suffix indicates panel thickness.

D-SUBMINIATURE CONNECTOR ACCESSORIES

JUNCTION SHELLS

Cinch Number	Type & Size	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
DA-19678-1	Straight, A	$1.67	$1.53	$1.25	$1.04	$0.94
DB-19678-2	Straight, B	1.99	1.80	1.52	1.20	1.11
DC-19678-3	Straight, C	2.38	2.15	1.80	1.44	1.33
DD-19678-4	Straight D	2.60	2.40	1.94	1.58	1.44
DA-19977-1	Rt.-angle, A	2.19	1.69	1.63	1.33	1.20
DB-19977-2	Rt.-angle, B	2.41	2.17	1.83	1.45	1.35
DC-19977-3	Rt.-angle, C	2.54	2.28	1.92	1.53	1.40
DD-19977-4	Rt.-angle, D	2.77	2.48	2.06	1.65	1.52
DE-19977-5	Rt.-angle, E	2.79	2.51	2.12	1.66	1.53
DE-24657	Straight, E*	3.12	2.87	2.41	1.93	1.75
DA-24658	Straight, A*	3.07	2.85	2.36	1.89	1.79
DB-24659	Straight, B*	2.48	2.26	1.89	1.53	1.44
DC-24660	Straight, C*	2.58	2.36	1.95	1.59	1.47
DD-24661	Straight, D*	2.90	2.73	2.28	1.85	1.66

*Deep, straight clamp junction shell.

SCREW LOCK ASSEMBLIES

D-20418-2	Female, A–E	$0.62	$0.58	$0.53	$0.40	$0.38
D-20419-0	Male, A–C, E	.40	.37	.33	.29	.27
D-20420-0	Male, D	.59	.56	.45	.38	.36

CLEAR POLYPROPYLENE DUST COVERS

DA-, DB-, DC-, DD- or DE-59-20-SKT	For sockets	$.891	$.782	$.662	$0.53	$0.486
DA-, DB-, DC-, DD- or DE-60-20-PLG	For plugs	.891	.782	.662	.53	.486

SLIDING LOCK ASSEMBLIES

DE-51224-1	1.392" long	$1.29	$1.15	$0.99	$0.80	$0.70
DA-51220-1	1.720" long	.67	.62	.56	.45	.42
DB-51221-1	2.260" long	.67	.61	.55	.44	.40
DC-51222-1	2.908" long	.88	.83	.67	.57	.54
DD-51223-1	2.814" long	1.09	1.01	.84	.63	.61

GRAY PLASTIC HOODS FOR SUPER D CONNECTOR SYSTEM

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
WITH LATCHES					
SDH-9GL	$1.35	$1.17	$0.99	$0.79	$0.73
SDH-15GL	1.40	1.22	1.03	.83	.76
SDH-25GL	1.51	1.31	1.11	.89	.82
SDH-37GL	1.62	1.41	1.20	.96	.88
WITH FILLER ENDS					
SDH-9GF	$1.24	$1.08	$0.91	$0.73	$0.67
SDH-15GF	1.26	1.10	.93	.75	.68
SDH-25GF	1.37	1.20	1.01	.81	.74
SDH-37GF	1.48	1.29	1.09	.88	.80

BLACK PLASTIC HOODS FOR SUPER D ADAPTER SYSTEM

Cinch Number	Net Each, Lots of 1-24	25-49	50-99	100-249	250 Up
WITH LATCHES					
SDH-9BL	$1.35	$1.17	$0.99	$0.79	$0.73
SDH-15BL	1.40	1.22	1.03	.83	.76
SDH-25BL	1.51	1.31	1.11	.89	.82
SDH-37BL	1.62	1.41	1.20	.96	.88
WITH FILLER ENDS					
SDH-9BF	$1.24	$1.08	$0.91	$0.73	$0.67
SDH-15BF	1.26	1.10	.93	.75	.68
SDH-25BF	1.37	1.20	1.01	.81	.74
SDH-37BF	1.48	1.39	1.09	.88	.80

ORDERING INFORMATION

Part Number Series	Required Components	Connector System: Cable-to-Cable Latch-N-Lock	Cable-to-Cable Screw Lock	Cable-to-Panel Latch-N-Lock	Cable-to-Panel Screw Mount	Adapter System: Cable-to-Cable Latch-N-Lock	Cable-to-Panel Latch-N-Lock	Cable-to-Panel Screw Mount
TX-XXX	Connector with mtg. holes	1	1	1	1			
TX-XXX-TB	Connector with 4-40 bushings*							
TX-XXX-LB	Connector with latching blocks	1						
TX-XXX-LB-1	Connector with 4-40 bushings and latching blocks		1	1	1			
SDH-XXX-GL	Gray hood with latches†	1		1				
SDH-XXX-GF	Gray hood with filler ends†	1	2		1			
SDH-XXX-BL	Black hood with latches†					1	1	
SDH-XXX-BF	Black hood with filler ends†					1		1
SD-WCXX	Strain relief/wire covers#			2#	2#			
SD-4-40(3/4)	4-40 Screws for filler end hoods		2		2	2		2
SD-LB	Metal latching blocks‡					2	2	
SD-LB-XXXX	Panel mounting Sems screws‡			2	2		2	

Connector with 4-40 bushings may be used to mount to panel and to mate to a connector without hoods. †One stay band/cable clamp applied with each hood; additional stay bands available. #The 9-position connector strain relief is one piece, so only one required. Latching blocks are available with and without mounting screws; mounting screws are available for either .060"/.080" or .125" panel thickness along with latch blocks.

TRW CINCH CONNECTORS

"JONES" PLUGS AND SOCKETS

300 SERIES PLUGS AND SOCKETS from famous "Jones" line, the standard for the electrical and electronic industry for many years. Small size, with good separation between contacts, for medium-duty applications. Molded phenolic insulator; 2 to 33 cadmium-plated phosphor bronze contacts; for cap or panel mounting. Polarized so only common sizes will mate. "Knife-switch" type socket contacts engage both sides of flat plug contacts. Rated 730 V rms, 10 A max. Contact resistance, .016 ohms max. UL Standard #498 rated (all contacts simultaneously) 7.5 amps, 1875 watts for 2–12 contacts; 4.5 amps, 1125 watts, 15–33 contacts.



AB



CCT



CCT-L



CCE



DB



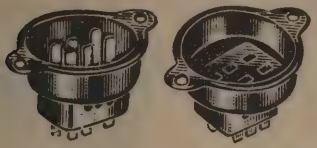
SB

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
PLUGS WITH ANGLE BRACKETS						
P-302-AB	2	$0.61	$0.45	$0.42	$0.38	$0.36
P-303-AB	3	.67	.51	.44	.40	.39
P-304-AB	4	.72	.61	.49	.42	.41
P-306-AB	6	.88	.72	.64	.48	.45
P-308-AB	8	1.03	.81	.70	.60	.55
P-310-AB	10	1.15	.89	.79	.65	.63
P-312-AB	12	1.29	1.04	.84	.70	.67
P-315-AB	15	1.71	1.35	1.15	.89	.85
P-318-AB	18	2.02	1.64	1.35	1.11	1.05
P-321-AB	21	2.52	2.02	1.71	1.35	1.31
P-324-AB	24	3.02	2.42	2.03	1.65	1.56
P-327-AB	27	3.54	2.86	2.39	1.90	1.80
P-330-AB	30	4.07	3.24	2.70	2.20	2.06
P-333-AB	33	4.55	3.63	3.03	2.42	2.34
PLUGS WITH CABLE CLAMPS/TOP						
P-302-CCT	2	$1.16	$0.93	$0.79	$0.65	$0.63
P-303-CCT	3	1.29	1.04	.84	.70	.67
P-304-CCT	4	1.34	1.09	.89	.72	.70
P-306-CCT	6	1.48	1.22	1.04	.81	.79
P-308-CCT	8	1.65	1.32	1.12	.88	.84
P-310-CCT	10	1.79	1.43	1.22	1.01	.93
P-312-CCT	12	1.93	1.56	1.32	1.06	1.01
P-315-CCT	15	2.56	2.06	1.75	1.39	1.34
P-318-CCT	18	2.99	2.40	2.02	1.64	1.50
P-321-CCT	21	3.55	2.87	2.40	1.92	1.82
P-324-CCT	24	4.17	3.34	2.82	2.28	2.12
P-327-CCT	27	4.79	3.80	3.19	2.56	2.42
P-330-CCT	30	5.35	4.30	3.58	2.88	2.73
P-333-CCT	33	5.93	4.77	3.96	3.19	3.02
PLUGS WITH CABLE CLAMPS/TOP & LOCKS						
P-302-CCT-L	2	$1.42	$1.16	$0.99	$0.79	$0.74
P-303-CCT-L	3	1.50	1.24	1.05	.83	.80
P-304-CCT-L	4	1.64	1.31	1.11	.85	.83
P-306-CCT-L	6	1.79	1.43	1.21	.99	.93
P-308-CCT-L	8	1.90	1.50	1.31	1.05	1.01
P-310-CCT-L	10	2.06	1.70	1.40	1.15	1.09
P-312-CCT-L	12	2.20	1.78	1.47	1.21	1.16
P-315-CCT-L	15	2.86	2.32	1.92	1.50	1.46
P-318-CCT-L	18	3.26	2.59	2.23	1.77	1.71
P-321-CCT-L	21	3.81	3.07	2.57	2.06	1.98
P-324-CCT-L	24	4.42	3.55	2.99	2.40	2.29
P-327-CCT-L	27	5.03	4.05	3.36	2.70	2.57
P-330-CCT-L	30	5.61	4.53	3.77	3.02	2.88
P-333-CCT-L	33	6.19	4.95	4.17	3.34	3.14
PLUGS WITH CABLE CLAMPS/END						
P-306-CCE	6	$1.58	$1.30	$1.09	$0.84	$0.81
P-308-CCE	8	1.72	1.37	1.16	.93	.88
P-310-CCE	10	1.87	1.47	1.29	1.04	.99
P-312-CCE	12	2.02	1.64	1.35	1.11	1.05
P-315-CCE	15	2.61	2.09	1.78	1.42	1.35
P-318-CCE	18	3.05	2.43	2.05	1.66	1.58
P-321-CCE	21	4.07	3.26	2.73	2.17	2.07
P-324-CCE	24	4.24	3.41	2.86	2.32	2.24
P-327-CCE	27	4.83	3.86	3.24	2.58	2.46
P-330-CCE	30	5.42	4.34	3.62	2.92	2.77
P-333-CCE	33	5.99	4.81	4.04	3.23	3.05
PLUGS WITH DEEP BRACKETS						
P-302-DB	2	$1.37	$1.12	$0.93	$0.74	$0.72
P-303-DB	3	1.39	1.12	.98	.75	.72
P-304-DB	4	1.46	1.18	1.01	.80	.75
P-306-DB	6	1.65	1.31	1.11	.88	.83
P-308-DB	8	1.75	1.42	1.18	.98	.89
P-312-DB	12	2.00	1.64	1.35	1.09	1.05
P-315-DB	15	2.42	1.96	1.66	1.32	1.29
P-318-DB	18	2.90	2.34	1.96	1.61	1.47
P-321-DB	21	3.47	2.81	2.34	1.87	1.78
P-324-DB	24	4.07	3.26	2.73	2.20	2.07
P-327-DB	27	4.64	3.73	3.11	2.47	2.39
P-330-DB	30	5.17	4.18	3.51	2.82	2.67
P-333-DB	33	5.74	4.64	3.88	3.08	2.99
PLUGS WITH SHALLOW BRACKETS						
P-315-SB	15	$2.42	$1.96	$1.66	$1.32	$1.29
P-318-SB	18	2.90	2.34	1.96	1.61	1.47
P-321-SB	21	3.47	2.81	2.34	1.87	1.78
P-324-SB	24	4.07	3.26	2.73	2.20	2.07
P-327-SB	27	4.64	3.73	3.11	2.47	2.39
P-330-SB	30	5.17	4.18	3.51	2.82	2.67
P-333-SB	33	5.74	4.64	3.88	3.08	2.99
PLUGS WITH FLUSH PLATE						
P-302-FP	2	$0.98	$0.75	$0.67	$0.51	$0.49
P-303-FP	3	1.03	.81	.70	.60	.51
P-304-FP	4	1.09	.84	.72	.63	.60
P-306-FP	6	1.24	1.03	.84	.68	.67
P-308-FP	8	1.35	1.11	.93	.74	.71
P-310-FP	10	1.46	1.18	1.03	.81	.79
P-312-FP	12	1.64	1.31	1.11	.85	.83

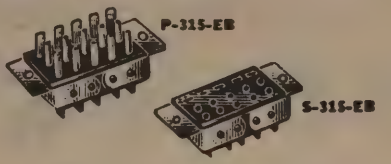
Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
SOCKETS WITH ANGLE BRACKETS						
S-302-AB	2	$0.64	$0.49	$0.43	$0.39	$0.38
S-303-AB	3	.70	.60	.45	.41	.40
S-304-AB	4	.75	.64	.51	.43	.42
S-306-AB	6	.98	.75	.67	.51	.49
S-308-AB	8	1.15	.90	.79	.65	.63
S-310-AB	10	1.32	1.06	.89	.72	.68
S-312-AB	12	1.56	1.24	1.06	.84	.80
S-315-AB	15	1.96	1.58	1.32	1.06	1.03
S-318-AB	18	2.27	1.79	1.48	1.22	1.16
S-321-AB	21	2.74	2.24	1.83	1.46	1.42
S-324-AB	24	3.26	2.59	2.23	1.75	1.71
S-327-AB	27	3.77	3.02	2.54	2.03	1.93
S-330-AB	30	4.33	3.47	2.90	2.34	2.24
S-333-AB	33	4.83	3.86	3.23	2.57	2.46
SOCKETS WITH CABLE CLAMPS/TOP						
S-302-CCT	2	$1.18	$0.99	$0.81	$0.67	$0.65
S-303-CCT	3	1.31	1.05	.85	.71	.68
S-304-CCT	4	1.37	1.12	.93	.74	.72
S-306-CCT	6	1.58	1.29	1.06	.84	.81
S-308-CCT	8	1.77	1.40	1.18	.99	.89
S-310-CCT	10	1.98	1.62	1.34	1.09	1.04
S-312-CCT	12	2.27	1.79	1.47	1.21	1.16
S-315-CCT	15	2.86	2.32	1.92	1.50	1.46
S-318-CCT	18	3.23	2.57	2.17	1.75	1.66
S-321-CCT	21	3.80	3.05	2.56	2.05	1.96
S-324-CCT	24	4.39	3.54	2.96	2.36	2.28
S-327-CCT	27	5.00	4.00	3.35	2.68	2.55
S-330-CCT	30	5.61	4.53	3.77	3.02	2.88
S-333-CCT	33	6.19	4.95	4.17	3.34	3.14
SOCKETS WITH CABLE CLAMPS/TOP & KEEPERS						
S-302-CCT-K	2	$1.45	$1.18	$1.03	$0.80	$0.75
S-303-CCT-K	3	1.58	1.29	1.06	.84	.81
S-304-CCT-K	4	1.66	1.34	1.12	.88	.84
S-306-CCT-K	6	1.83	1.46	1.24	1.03	.98
S-308-CCT-K	8	2.03	1.65	1.37	1.12	1.06
S-310-CCT-K	10	2.28	1.80	1.48	1.22	1.17
S-312-CCT-K	12	2.52	2.02	1.71	1.35	1.31
S-315-CCT-K	15	3.11	2.52	2.08	1.71	1.62
S-318-CCT-K	18	3.51	2.82	2.35	1.89	1.79
S-321-CCT-K	21	4.09	3.27	2.74	2.23	2.07
S-324-CCT-K	24	4.66	3.76	3.12	2.52	2.40
S-327-CCT-K	27	5.28	4.21	3.54	2.86	2.68
S-330-CCT-K	30	5.91	4.77	3.95	3.14	3.02
S-333-CCT-K	33	6.48	5.16	4.34	3.48	3.29
SOCKETS WITH CABLE CLAMPS/END						
S-306-CCE	6	$1.65	$1.32	$1.15	$0.88	$0.84
S-308-CCE	8	1.82	1.45	1.24	1.03	.98
S-310-CCE	10	2.05	1.66	1.40	1.12	1.06
S-312-CCE	12	2.32	1.83	1.56	1.24	1.18
S-315-CCE	15	2.92	2.35	1.96	1.58	1.47
S-318-CCE	18	3.27	2.61	2.24	1.78	1.71
S-321-CCE	21	3.88	3.11	2.58	2.07	2.00
S-324-CCE	24	4.46	3.58	3.01	2.40	2.32
S-327-CCE	27	5.04	4.07	3.41	2.73	2.57
S-330-CCE	30	5.65	4.55	3.80	3.05	2.90
S-333-CCE	33	6.24	5.02	4.20	3.36	3.21
SOCKETS WITH DEEP BRACKETS						
S-302-DB	2	$1.40	$1.16	$0.99	$0.79	$0.74
S-303-DB	3	1.40	1.15	.99	.79	.74
S-304-DB	4	1.47	1.21	1.04	.81	.79
S-306-DB	6	1.71	1.35	1.16	.89	.85
S-308-DB	8	1.87	1.47	1.29	1.04	.98
S-312-DB	12	2.32	1.82	1.56	1.24	1.18
S-315-DB	15	2.70	2.20	1.82	1.45	1.39
S-318-DB	18	3.12	2.52	2.08	1.72	1.64
S-321-DB	21	3.73	2.99	2.47	2.00	1.90
S-324-DB	24	4.31	3.46	2.90	2.34	2.23
S-327-DB	27	4.87	3.89	3.26	2.59	2.47
S-330-DB	30	5.47	4.39	3.69	2.96	2.82
S-333-DB	33	6.03	4.85	4.07	3.24	3.08
SOCKETS WITH SHALLOW BRACKETS						
S-315-SB	15	$2.70	$2.20	$1.82	$1.45	$1.41
S-318-SB	18	3.12	2.52	2.08	1.72	1.64
S-321-SB	21	3.73	2.99	2.47	2.00	1.90
S-324-SB	24	4.31	3.46	2.90	2.34	2.23
S-327-SB	27	4.87	3.89	3.26	2.59	2.47
S-330-SB	30	5.47	4.39	3.69	2.96	2.82
S-333-SB	33	6.03	4.85	4.07	3.24	3.08
SOCKETS WITH FLUSH PLATE						
S-302-FP	2	$1.01	$0.80	$0.68	$0.55	$0.52
S-303-FP	3	1.04	.83	.71	.60	.55
S-304-FP	4	1.12	.88	.75	.64	.61
S-306-FP	6	1.31	1.05	.85	.71	.68
S-308-FP	8	1.46	1.18	1.03	.81	.79
S-310-FP	10	1.70	1.34	1.15	.89	.85
S-312-FP	12	1.89	1.48	1.30	1.05	1.01

LARGER QUANTITY PRICING AVAILABLE ON REQUEST

300 SERIES "JONES" PLUGS AND SOCKETS (CONTINUED)



P-306-RP S-306-RP



P-315-EB S-315-EB

PLUGS WITH RECESSED PLATES

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
302-RP	2	$1.09	$0.85	$0.74	$0.63	$0.61
303-RP	3	1.15	.89	.79	.65	.63
304-RP	4	1.21	.99	.81	.68	.65
306-RP	6	1.39	1.12	.88	.74	.72
308-RP	8	1.58	1.29	1.06	.84	.81
310-RP	10	1.80	1.40	1.18	.99	.89
312-RP	12	1.96	1.58	1.32	1.06	1.03

SOCKETS WITH RECESSED PLATES

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-302-RP	2	$1.15	$0.89	$0.75	$0.64	$0.63
S-303-RP	3	1.17	.98	.80	.65	.64
S-304-RP	4	1.24	1.03	.84	.70	.67
S-306-RP	6	1.42	1.16	.99	.79	.74
S-308-RP	8	1.71	1.35	1.16	.93	.85
S-310-RP	10	1.96	1.58	1.32	1.06	1.03
S-312-RP	12	2.27	1.79	1.48	1.22	1.16

PLUGS WITH END BRACKETS

315-EB	15	$1.75	$1.39	$1.17	$0.98	$0.88
318-EB	18	2.06	1.70	1.39	1.12	1.09
321-EB	21	2.56	2.05	1.74	1.39	1.32
324-EB	24	3.07	2.46	2.06	1.70	1.62
327-EB	27	3.58	2.88	2.41	1.93	1.83
330-EB	30	4.10	3.27	2.74	2.24	2.08
333-EB	33	4.58	3.69	3.07	2.46	2.35

SOCKETS WITH END BRACKETS

S-315-EB	15	$2.00	$1.64	$1.34	$1.09	$1.05
S-318-EB	18	3.19	1.83	1.56	1.24	1.18
S-321-EB	21	2.82	2.28	1.89	1.48	1.43
S-324-EB	24	3.29	2.65	2.27	1.79	1.72
S-327-EB	27	3.81	3.07	2.56	2.06	1.96
S-330-EB	30	4.37	3.51	2.93	2.36	2.27
S-333-EB	33	4.87	3.89	3.26	2.59	2.47

300 SERIES PLUGS AND SOCKETS are rated for duty beyond the range of 300 Series: 1100 V rms at 15 amps. Contact resistance, 1 milliohm avg. Polarized and suitable for either cap or panel mounting in 2, 4, 6, 8, 10 and 12 contact sizes. "Knife-switch" type socket contacts of cadmium-plated phosphor bronze engage both sides of flat plug contacts. Plug prongs are cadmium-plated brass ¼" wide, ⅛" thick. Caps finished in black wrinkle and fiber lined.



SB





CCT





CCE





DB

PLUGS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
302-AB	2	$1.39	$1.12	$0.94	$0.75	$0.72
304-AB	4	1.71	1.37	1.15	.89	.85
306-AB	6	1.98	1.58	1.35	1.09	1.04
308-AB	8	2.29	1.82	1.50	1.22	1.17
310-AB	10	2.56	2.06	1.75	1.40	1.34
312-AB	12	2.87	2.32	1.92	1.54	1.46

SOCKETS WITH ANGLE BRACKETS

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-402-AB	2	$1.62	$1.30	$1.09	$0.85	$0.83
S-404-AB	4	2.06	1.65	1.39	1.12	1.06
S-406-AB	6	2.52	2.02	1.72	1.37	1.31
S-408-AB	8	2.96	2.36	1.98	1.61	1.48
S-410-AB	10	3.38	2.72	2.29	1.82	1.75
S-412-AB	12	3.85	3.07	2.57	2.07	1.98

PLUGS WITH CABLE CLAMPS/TOP

402-CCT	2	$2.28	$1.82	$1.50	$1.22	$1.17
404-CCT	4	2.57	2.07	1.75	1.40	1.34
406-CCT	6	2.96	2.36	2.00	1.62	1.50
408-CCT	8	3.27	2.59	2.20	2.78	1.71
410-CCT	10	3.76	3.01	2.54	2.03	1.92
412-CCT	12	4.09	3.28	2.73	2.23	2.08

SOCKETS WITH CABLE CLAMPS/TOP

S-402-CCT	2	$2.56	$2.06	$1.74	$1.39	$1.34
S-404-CCT	4	3.03	2.43	2.06	1.65	1.55
S-406-CCT	6	3.54	2.86	2.36	1.90	1.80
S-408-CCT	8	4.00	3.24	2.70	2.16	2.07
S-410-CCT	10	4.53	3.62	3.03	2.47	2.34
S-412-CCT	12	5.03	4.00	3.35	2.70	2.57

PLUGS WITH CABLE CLAMPS/END

402-CCE	2	$2.34	$1.89	$1.58	$1.29	$1.21
404-CCE	4	2.65	2.10	1.79	1.43	1.37
406-CCE	6	3.02	2.42	2.03	1.65	1.55
408-CCE	8	3.35	2.68	2.27	1.80	1.74
410-CCE	10	3.81	3.05	2.57	2.07	1.96
412-CCE	12	4.17	3.34	2.81	2.27	2.10

SOCKETS WITH CABLE CLAMPS/END

S-402-CCE	2	$2.61	$2.09	$1.78	$1.43	$1.37
S-404-CCE	4	3.11	2.52	2.09	1.71	1.62
S-406-CCE	6	3.62	2.90	2.42	1.96	1.87
S-408-CCE	8	4.10	3.28	2.74	2.23	2.09
S-410-CCE	10	4.58	3.69	3.07	2.47	2.35
S-412-CCE	12	5.08	4.07	3.41	2.73	2.58

PLUGS WITH DEEP BRACKETS

402-DB	2	$1.82	$1.46	$1.22	$1.01	$0.94
404-DB	4	2.23	1.78	1.47	1.18	1.16
406-DB	6	2.57	2.07	1.75	1.40	1.34
408-DB	8	2.96	2.36	2.00	1.62	1.50
410-DB	10	3.34	2.67	2.27	1.80	1.74
412-DB	12	3.73	2.99	2.52	2.00	1.90

SOCKETS WITH DEEP BRACKETS

S-402-DB	2	$2.06	$1.65	$1.39	$1.12	$1.06
S-404-DB	4	2.57	2.07	1.75	1.40	1.34
S-406-DB	6	3.11	2.52	2.09	1.72	1.62
S-408-DB	8	3.63	2.93	2.43	1.96	1.87
S-410-DB	10	4.18	3.34	2.81	2.28	2.12
S-412-DB	12	4.71	3.37	3.14	2.55	2.41

PLUGS WITH SHALLOW BRACKETS

402-SB	2	$1.77	$1.42	$1.18	$0.94	$0.89
404-SB	4	2.10	1.74	1.43	1.16	1.11
406-SB	6	2.52	2.02	1.72	1.37	1.31
408-SB	8	2.90	2.33	1.93	1.55	1.47
410-SB	10	3.27	2.59	2.23	1.78	1.71
412-SB	12	3.63	2.90	2.43	1.96	1.87

SOCKETS WITH SHALLOW BRACKETS

S-402-SB	2	$1.98	$1.58	$1.35	$1.09	$1.04
S-404-SB	4	2.52	2.02	1.72	1.37	1.31
S-406-SB	6	3.03	2.46	2.06	1.65	1.55
S-408-SB	8	3.57	2.88	2.41	1.92	1.82
S-410-SB	10	3.27	2.74	2.74	2.24	2.09
S-412-SB	12	4.63	3.73	3.11	2.52	2.36

PLUGS LESS ANGLE BRACKETS, DRILLED*

402-LAB	2	$0.80	$0.67	$0.55	$0.43	$0.42
404-LAB	4	1.11	.85	.74	.64	.60
406-LAB	6	1.45	1.17	1.01	.80	.75
408-LAB	8	1.77	1.42	1.18	.94	.85
410-LAB	10	2.23	1.79	1.48	1.21	1.16
412-LAB	12	2.56	2.06	1.74	1.39	1.34

*For 6-32 self-tapping screw; except in 2-contact size.

SOCKETS LESS ANGLE BRACKETS, DRILLED*

S-402-LAB	2	$1.03	$0.81	$0.70	$0.55	$0.51
S-404-LAB	4	1.46	1.17	1.01	.81	.79
S-406-LAB	6	1.90	1.50	1.30	1.05	1.01
S-408-LAB	8	2.35	1.89	1.61	1.30	1.21
S-410-LAB	10	2.81	2.28	1.89	1.48	1.45
S-412-LAB	12	3.26	2.69	2.17	1.77	1.70

*For 6-32 self-tapping screw; except in 2-contact size.

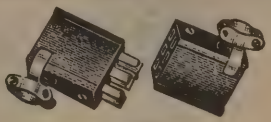
LARGER QUANTITY PRICING AVAILABLE ON REQUEST

"JONES" PLUGS AND SOCKETS 2400 SERIES

2400 SERIES PLUGS AND SOCKETS are designed for excellent electrical and mechanical performance. Ratings are the same as 400 Series, except for higher (1700 volts) voltage rating. Fully interchangeable with corresponding units of the 400 Series.



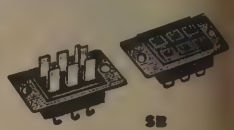
CCT



CCE



DB



SB

PLUGS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
P-2402-CCT	2	$2.39	$1.92	$1.62	$1.30	$1.22
P-2404-CCT	4	2.70	2.16	1.82	1.46	1.40
P-2406-CCT	6	3.02	2.42	2.03	1.65	1.55
P-2408-CCT	8	3.34	2.68	2.28	1.80	1.74
P-2410-CCT	10	3.69	2.96	2.46	1.98	1.89
P-2412-CCT	12	3.85	3.08	2.58	2.07	1.96

PLUGS WITH CABLE CLAMPS/END

P-2402-CCE	2	$2.43	$1.98	$1.66	$1.34	$1.29
P-2404-CCE	4	2.79	2.24	1.87	1.48	1.43
P-2406-CCE	6	3.08	2.47	2.08	1.71	1.62
P-2408-CCE	8	3.41	2.73	2.32	1.83	1.77
P-2410-CCE	10	3.75	3.02	2.54	2.02	1.92
P-2412-CCE	12	4.08	3.27	2.72	2.17	2.08

PLUGS WITH DEEP BRACKETS

P-2402-DB	2	$1.89	$1.48	$1.29	$1.04	$0.99
P-2404-DB	4	2.17	1.71	1.46	1.18	1.15
P-2406-DB	6	2.52	2.00	1.71	1.37	1.30
P-2408-DB	8	2.81	2.28	1.89	1.48	1.45
P-2410-DB	10	3.11	2.52	2.08	1.71	1.62
P-2412-DB	12	3.41	2.73	2.32	1.83	1.77

PLUGS WITH SHALLOW BRACKETS

P-2402-SB	2	$1.75	$1.40	$1.17	$0.94	$0.89
P-2404-SB	4	2.06	1.65	1.39	1.12	1.06
P-2406-SB	6	2.35	1.89	1.58	1.30	1.21
P-2408-SB	8	2.67	2.16	1.79	1.60	1.54
P-2410-SB	10	2.97	2.39	2.00	1.62	1.50
P-2412-SB	12	3.30	2.61	2.23	1.78	1.71

PLUGS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

P-2402-LAB	2	$1.01	$0.80	$0.68	$0.51	$0.49
P-2404-LAB	4	1.30	1.05	.85	.71	.68
P-2406-LAB	6	1.62	1.30	1.09	.85	.83
P-2408-LAB	8	1.90	1.50	1.30	1.05	1.01
P-2410-LAB	10	2.24	1.78	1.47	1.21	1.16
P-2412-LAB	12	2.54	2.03	1.72	1.37	1.31

*Except in 2 contact size.

SOCKETS WITH CABLE CLAMPS/TOP

Cinch Number	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
S-2402-CCT	2	$2.58	$2.17	$1.77	$1.40	$1.35
S-2404-CCT	4	2.87	2.32	1.92	1.54	1.46
S-2406-CCT	6	3.21	2.56	2.12	1.75	1.65
S-2408-CCT	8	3.54	2.86	2.36	1.90	1.80
S-2410-CCT	10	3.88	3.08	2.58	2.08	1.98
S-2412-CCT	12	4.20	3.36	2.82	2.28	2.16

SOCKETS WITH CABLE CLAMPS/END

S-2402-CCE	2	$2.67	$2.12	$1.79	$1.43	$1.39
S-2404-CCE	3	2.93	2.35	1.98	1.58	1.48
S-2406-CCE	6	3.27	2.59	2.23	1.78	1.71
S-2408-CCE	8	3.60	2.90	2.42	1.93	1.83
S-2410-CCE	10	3.94	3.14	2.65	2.10	2.02
S-2412-CCE	12	4.30	3.44	2.88	2.32	2.17

SOCKETS WITH DEEP BRACKETS

S-2402-DB	2	$2.02	$1.64	$1.37	$1.11	$1.05
S-2404-DB	4	2.34	1.89	1.58	1.29	1.21
S-2406-DB	6	2.67	2.12	1.79	1.43	1.39
S-2408-DB	8	2.99	2.39	2.02	1.64	1.50
S-2410-DB	10	3.29	2.65	2.23	1.79	1.72
S-2412-DB	12	3.62	2.92	2.43	1.96	1.87

SOCKETS WITH SHALLOW BRACKETS

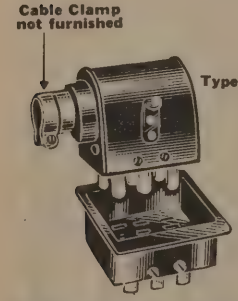
S-2402-SB	2	$1.89	$1.48	$1.29	$1.04	$0.99
S-2404-SB	4	2.20	1.78	1.47	1.18	1.15
S-2406-SB	6	2.54	2.03	1.72	1.37	1.31
S-2408-SB	8	2.86	2.29	1.92	1.54	1.46
S-2410-SB	10	3.19	2.55	2.10	1.74	1.64
S-2412-SB	12	3.51	2.81	2.35	1.89	1.79

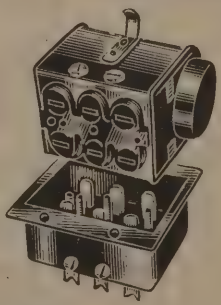
SOCKETS LESS ANGLE BRACKETS, DRILLED AND TAPPED*

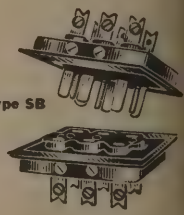
S-2402-LAB	2	$1.12	$0.89	$0.75	$0.64	$0.63
S-2404-LAB	4	1.43	1.16	1.01	.80	.75
S-2406-LAB	6	1.78	1.42	1.18	.99	.89
S-2408-LAB	8	2.08	1.71	1.42	1.15	1.09
S-2410-LAB	10	2.41	1.93	1.64	1.31	1.24
S-2412-LAB	12	2.72	2.23	1.83	1.46	1.40

*Except in 2 contact size.

"JONES" PLUGS AND SOCKETS 500 SERIES







500 SERIES PLUGS AND SOCKETS feature three types—**Type DB** with deep bracket for recessed mounting; **Type CE** for cable clamp in end; **Type SB** with shallow bracket for flush mounting. **Rated Voltage:** 3 kV, max. **Rated Current:** 25 amperes per contact. **Power Capacity:** 5 kW, max. **Contacts:** Male, cadmium plated brass; Female, cadmium plated phosphor. **Caps and Brackets:** Parkerized steel.

DEEP BRACKET FOR RECESSED MOUNTING

Cinch Number Plug	Cinch Number Socket	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249
P-502-DB	S-502-DB	2	$16.60	$13.35	$10.46	$ 9.01
P-504-DB	S-504-DB	4	19.05	15.23	12.36	10.92
P-506-DB	S-506-DB	6	21.31	17.06	14.19	12.74
P-508-DB	S-508-DB	8	23.27	18.64	15.76	14.26
P-510-DB	S-510-DB	10	25.22	20.20	17.34	15.86
P-512-DB	S-512-DB	12	26.63	21.42	18.53	17.06

CABLE CLAMP IN END

Cinch Number Plug	Cinch Number Socket	Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249
P-502-CE	S-502-CE	2	$19.65	$15.73	$12.84	$11.40
P-504-CE	S-504-CE	4	22.69	18.13	15.23	13.81
P-506-CE	S-506-CE	6	24.79	19.83	16.95	15.49
P-508-CE	S-508-CE	8	26.00	20.76	17.91	16.41
P-510-CE	S-510-CE	10	28.40	22.75	19.83	18.40
P-512-CE	S-512-CE	12	30.21	24.19	21.30	19.83

SHALLOW BRACKET FOR FLUSH MOUNTING

P-502-SB	S-502-SB	2	$16.60	$13.35	$10.46	$ 9.01
P-504-SB	S-504-SB	4	19.05	15.23	12.36	10.92
P-506-SB	S-506-SB	6	21.31	17.06	14.19	12.74
P-508-SB	S-508-SB	8	23.27	18.64	15.76	14.26
P-510-SB	S-510-SB	10	25.22	20.20	17.34	15.86
P-512-SB	S-512-SB	12	26.63	21.42	18.53	17.06

LARGER QUANTITY PRICING AVAILABLE ON REQUEST



Barrier design for high voltage rating. Molded phenolic base, nickel plated brass eyelets, steel screws with nickel over copper flash, and electro-tinned terminals. Marker strips and fanning strips for terminal blocks are listed on other pages. Terminals available: **¾W** for soldered wires on one side of block; **Y** for soldered wires underneath block; **W** for soldered wires on both sides of block (available as standard on 172 series—special order on others); **E** for Sems screws; no suffix for standard binder-head screws.

	Type 140	Type 141	Type 142	Type 150*	Type 151*	Type 152*
Size, W. x H.	⅛"x1 3/32"	1⅛"x½"	1 5/16"x 5/8"	1 13/16"x¾"	2"x1 5/16"	2½"x1⅛"
Barrier spacing	⅜"	7/16"	9/16"	1 1/16"	⅞"	1⅛"
Mtg. centers	5/16"	2 7/64"	½"	⅝"	¾"	⅞"
Mtg. hole dia.	.16)"	.175"/.185"	.209"	.160"	.180"	.209"
Screw size	5-40	6-32	8-32	10-32	12-32	¼"-28
Max. wire size	#16	#14	#10	#10	#8	#6
Max. V rms†	1100	1100	1600	1700	1800	2100

*Have .136" hole centered between mounting holes. †Without marker strip.

SERIES 140 (UL RECOGNIZED)

	TYPE 140 Net Each, Lots of			TYPE 140-E Net Each, Lots of				TYPE 140-¾W Net Each, Lots of				TYPE 140-Y Net Each, Lots of			
Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1-140	$0.40	$0.32	$0.28	1-140-E	.....	.....	.....	1-140-¾W	$0.44	$0.39	$0.35	1-140-Y	$0.44	$0.39	$0.35
2-140	.44	.40	.35	2-140-E	$0.60	$0.47	$0.42	2-140-¾W	.55	.44	.41	2-140-Y	.55	.44	.41
3-140	.50	.43	.39	3-140-E	.76	.62	.50	3-140-¾W	.69	.55	.46	3-140-Y	.69	.55	.46
4-140	.66	.50	.44	4-140-E	.90	.74	.63	4-140-¾W	.95	.76	.66	4-140-Y	.90	.74	.65
5-140	.79	.65	.52	5-140-E	1.14	.91	.77	5-140-¾W	1.15	.91	.79	5-140-Y	1.09	.87	.76
6-140	.91	.74	.65	6-140-E	1.32	1.06	.90	6-140-¾W	1.35	1.08	.90	6-140-Y	1.35	1.08	.90
7-140	1.06	.83	.73	7-140-E	1.42	1.15	.97	7-140-¾W	1.51	1.26	1.06	7-140-Y	1.46	1.19	1.03
8-140	1.19	.97	.81	8-140-E	1.58	1.28	1.07	8-140-¾W	1.76	1.41	1.19	8-140-Y	1.69	1.35	1.14
9-140	1.34	1.07	.86	9-140-E	1.85	1.49	1.26	9-140-¾W	1.94	1.53	1.34	9-140-Y	1.85	1.47	1.27
10-140	1.43	1.18	1.02	10-140-E	2.02	1.61	1.36	10-140-¾W	2.13	1.74	1.43	10-140-Y	2.04	1.69	1.39
11-140	1.53	1.26	1.07	11-140-E	2.15	1.75	1.46	11-140-¾W	2.36	1.87	1.58	11-140-Y	2.22	1.79	1.49
12-140	1.74	1.38	1.15	12-140-E	2.38	1.90	1.59	12-140-¾W	2.51	2.03	1.74	12-140-Y	2.42	1.94	1.68
13-140	1.83	1.46	1.26	13-140-E	2.60	2.07	1.75	13-140-¾W	2.74	2.19	1.84	13-140-Y	2.61	2.08	1.78
14-140	1.97	1.58	1.35	14-140-E	2.77	2.24	1.85	14-140-¾W	2.95	2.38	1.97	14-140-Y	2.81	2.27	1.90
15-140	2.08	1.71	1.41	15-140-E	2.92	2.36	1.97	15-140-¾W	3.12	2.50	2.08	15-140-Y	3.01	2.41	2.02
16-140	2.22	1.79	1.49	16-140-E	3.11	2.50	2.08	16-140-¾W	3.33	2.64	2.26	16-140-Y	3.16	2.53	2.13
17-140	2.37	1.87	1.58	17-140-E	3.30	2.63	2.22	17-140-¾W	3.54	2.82	2.38	17-140-Y	3.36	2.68	2.29
18-140	2.48	2.00	1.70	18-140-E	3.49	2.80	2.37	18-140-¾W	3.72	2.99	2.49	18-140-Y	3.57	2.88	2.39
19-140	2.61	2.07	1.76	19-140-E	3.68	2.95	2.47	19-140-¾W	3.92	3.14	2.62	19-140-Y	3.72	3.01	2.50
20-140	2.73	2.19	1.84	20-140-E	3.87	3.10	2.60	20-140-¾W	4.12	3.28	2.75	20-140-Y	3.92	3.14	2.62

ries 140 terminal blocks are available with up to 25 positions; price on request.

SERIES 141 (UL RECOGNIZED)

	TYPE 141 Net Each, Lots of			TYPE 141-E Net Each, Lots of				TYPE 141-¾W Net Each, Lots of				TYPE 141-Y Net Each, Lots of			
Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1-141	$0.44	$0.39	$0.35	.....	.....	.....	.....	1-141-¾W	$0.52	$0.43	$0.40	1-141-Y	$0.52	$0.43	$0.40
2-141	.49	.41	.37	2-141-E	$0.63	$0.50	$0.43	2-141-¾W	.69	.52	.44	2-141-Y	.69	.52	.44
3-141	.66	.50	.44	3-141-E	.90	.73	.62	3-141-¾W	.95	.76	.66	3-141-Y	.91	.74	.65
4-141	.83	.70	.60	4-141-E	1.14	.91	.77	4-141-¾W	1.21	1.02	.82	4-141-Y	1.19	.97	.81
5-141	1.06	.81	.76	5-141-E	1.34	1.07	.90	5-141-¾W	1.47	1.19	1.03	5-141-Y	1.42	1.15	.96
6-141	1.15	.91	.79	6-141-E	1.47	1.19	1.02	6-141-¾W	1.74	1.38	1.15	6-141-Y	1.65	1.34	1.13
7-141	1.36	1.08	.91	7-141-E	1.74	1.39	1.18	7-141-¾W	2.00	1.57	1.36	7-141-Y	1.93	1.51	1.32
8-141	1.49	1.20	1.04	8-141-E	1.97	1.58	1.34	8-141-¾W	2.27	1.80	1.50	8-141-Y	2.13	1.74	1.43
9-141	1.69	1.35	1.14	9-141-E	2.14	1.74	1.46	9-141-¾W	2.49	2.00	1.70	9-141-Y	2.38	1.90	1.59
10-141	1.84	1.47	1.26	10-141-E	2.46	1.97	1.65	10-141-¾W	2.78	2.22	1.85	10-141-Y	2.62	2.08	1.78
11-141	2.00	1.59	1.38	11-141-E	2.63	2.13	1.78	11-141-¾W	3.01	2.42	2.03	11-141-Y	2.89	2.34	1.94
12-141	2.14	1.75	1.43	12-141-E	2.82	2.27	1.90	12-141-¾W	3.27	2.61	2.19	12-141-Y	3.11	2.49	2.07
13-141	2.36	1.85	1.53	13-141-E	3.05	2.46	2.04	13-141-¾W	3.52	2.81	2.38	13-141-Y	3.36	2.68	2.29
14-141	2.49	2.00	1.70	14-141-E	3.39	2.74	2.19	14-141-¾W	3.80	3.05	2.51	14-141-Y	3.62	2.92	2.46
15-141	2.63	2.11	1.79	15-141-E	3.57	2.89	2.37	15-141-¾W	4.01	3.21	2.68	15-141-Y	3.85	3.10	2.60

ries 141 terminal blocks are available with up to 20 positions; prices on request.

SERIES 142 (UL RECOGNIZED)

	TYPE 142 Net Each, Lots of			TYPE 142-E Net Each, Lots of				TYPE 142-¾W Net Each, Lots of				TYPE 142-Y Net Each, Lots of			
Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1-142	$0.49	$0.41	$0.37	.....	.....	.....	.....	1-142-¾W	$0.65	$0.49	$0.43	1-142-Y	$0.62	$0.47	$0.42
2-142	.60	.46	.41	2-142-E	$0.77	$0.63	$0.52	2-142-¾W	.82	.69	.57	2-142-Y	.79	.66	.52
3-142	.77	.63	.50	3-142-E	1.01	.81	.69	3-142-¾W	1.18	.96	.81	3-142-Y	1.08	.86	.74
4-142	1.03	.81	.70	4-142-E	1.26	1.02	.85	4-142-¾W	1.51	1.26	1.06	4-142-Y	1.42	1.15	.97
5-142	1.20	.97	.81	5-142-E	1.47	1.19	1.02	5-142-¾W	1.85	1.47	1.27	5-142-Y	1.74	1.38	1.18
6-142	1.41	1.14	.97	6-142-E	1.71	1.38	1.18	6-142-¾W	2.19	1.78	1.47	6-142-Y	2.04	1.68	1.38
7-142	1.65	1.32	1.09	7-142-E	2.04	1.65	1.46	7-142-¾W	2.51	2.03	1.74	7-142-Y	2.37	1.87	1.58
8-142	1.83	1.46	1.25	8-142-E	2.29	1.84	1.59	8-142-¾W	2.88	2.30	1.93	8-142-Y	2.63	2.11	1.79
9-142	2.02	1.65	1.36	9-142-E	2.51	2.03	1.75	9-142-¾W	3.16	2.53	2.13	9-142-Y	2.95	2.38	1.97
10-142	2.26	1.80	1.49	10-142-E	2.81	2.27	1.87	10-142-¾W	3.55	2.82	2.39	10-142-Y	3.28	2.62	2.19
11-142	2.46	1.95	1.68	11-142-E	2.99	2.39	2.04	11-142-¾W	3.85	3.10	2.60	11-142-Y	3.57	2.89	2.41
12-142	2.63	2.11	1.79	12-142-E	3.14	2.51	2.26	12-142-¾W	4.21	3.36	2.81	12-142-Y	3.87	3.11	2.61
13-142	2.88	2.30	1.93	13-142-E	3.32	2.64	2.41	13-142-¾W	4.51	3.63	3.05	13-142-Y	4.21	3.36	2.81
14-142	3.06	2.47	2.05	14-142-E	3.52	2.81	2.60	14-142-¾W	4.90	3.32	3.27	14-142-Y	4.49	3.61	3.03
15-142	3.28	2.62	2.19	15-142-E	4.11	3.30	2.75	15-142-¾W	5.22	4.20	3.52	15-142-Y	4.82	3.85	3.21
16-142	3.50	2.80	2.37	16-142-E	4.42	3.52	2.95	16-142-¾W	5.54	4.46	3.70	16-142-Y	5.14	4.13	3.45
17-142	3.68	2.96	2.48	17-142-E	4.66	3.72	3.11	17-142-¾W	5.87	4.72	3.95	17-142-Y	5.45	4.34	3.63

SERIES 150, 151 AND 152 (UL RECOGNIZED)

	TYPE 150 Net Each, Lots of			TYPE 150-Y Net Each, Lots of				TYPE 151 Net Each, Lots of				TYPE 152 Net Each, Lots of			
Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99	Cinch No.	1-24	25-49	50-99
1-150	$1.37	$1.09	$0.91	1-150-Y	$1.64	$1.31	$1.08	1-151	$1.90	$1.52	$1.28	1-152	$3.81	$3.05	$2.55
2-150	1.71	1.37	1.14	2-150-Y	2.36	1.89	1.58	2-151	3.10	2.48	2.06	2-152	5.46	4.36	3.63
3-150	2.51	2.01	1.68	3-150-Y	3.28	2.62	2.19	3-151	4.60	3.69	3.08	3-152	7.55	6.04	5.03
4-150	3.16	2.53	2.13	4-150-Y	4.34	3.49	2.90	4-151	5.98	4.79	4.00	4-152	9.57	7.66	6.38
5-150	3.85	3.10	2.59	5-150-Y	5.30	4.25	3.55	5-151	7.39	5.92	4.94	5-152	11.58	9.27	7.72
6-150	4.61	3.70	3.10	6-150-Y	6.27	5.02	4.20	6-151	8.77	7.01	5.86	6-152	13.67	10.93	9.11
7-150	5.31	4.26	3.56	7-150-Y	7.17	5.74	4.79	7-151	10.20	8.17	6.80	.....	.....	.....	.....
8-150	6.10	4.89	4.06	8-150-Y	8.20	6.56	5.47	8-151	11.58	9.27	7.72	.....	.....	.....	.....
9-150	6.75	5.41	4.50	9-150-Y	9.20	7.36	6.14	.....	.....	.....	.....	.....	.....	.....	.....
10-150	7.47	5.98	4.99	10-150-Y	10.20	8.17	6.80	.....	.....	.....	.....	.....	.....	.....	.....

	Type 164	Type 171	Type 172	Type 173	Type 174	Type 540	Type 541	Type 542
Size, W. x H.	7/8" x 13/32"	1 3/32" x 5/16"	5/8" x 5/16"	3/8" x 1/2"	3/8" x 1/2"	1 1/8" x 39/64"	1 1/8" x 11/16"	1 5/8" x 1/2"
Barrier spacing	3/8"	1/4"	1/4"	3/8"	3/8"	3/8"	7/16"	9/16"
Mtg. centers	5/16"	.....	.250"	.....	.....	21/32"	21/32"	1/2"
Mtg. hole dia.	.171/.175"	.125"	.125"	.125"	.156"	.160"	.175/.185"	.209"
Screw size	6-32	2-56	2-56	4-40*	4-40	5-40	6-32	8-32
Max. wire size	#14	#18	#18	#16	#16	#16	#14	#10
Max. Vrms.	1100	1000	1000	1000	1000	2300	2800	4000

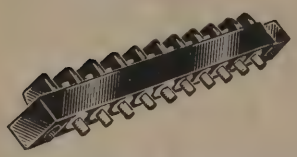
*Sems type with lockwasher.

SERIES 164 (UL RECOGNIZED)

Contacts	TYPE 164 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 164-¾W Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 164-Y Cinch No.	Net Each, Lots of 1-24	25-49	50-99
1	1-164	$0.42	$0.37	$0.30	1-164-¾W	$0.44	$0.40	$0.35	1-164-Y	$0.44	$0.40	$0.36
2	2-164	.49	.41	.37	2-164-¾W	.60	.46	.41	2-164-Y	.60	.46	.41
3	3-164	.63	.47	.42	3-164-¾W	.77	.63	.50	3-164-Y	.77	.63	.50
4	4-164	.77	.65	.52	4-164-¾W	1.04	.81	.72	4-164-Y	1.04	.81	.72
5	5-164	.91	.76	.66	5-164-¾W	1.20	1.02	.82	5-164-Y	1.20	1.02	.82
6	6-164	1.09	.85	.74	6-164-¾W	1.42	1.15	1.01	6-164-Y	1.42	1.15	1.01
7	7-164	1.25	1.02	.82	7-164-¾W	1.65	1.32	1.09	7-164-Y	1.65	1.32	1.09
8	8-164	1.38	1.13	.95	8-164-¾W	1.83	1.46	1.25	8-164-Y	1.83	1.46	1.25
9	9-164	1.46	1.21	1.03	9-164-¾W	1.98	1.65	1.35	9-164-Y	1.98	1.65	1.35
10	10-164	1.70	1.36	1.14	10-164-¾W	2.26	1.80	1.49	10-164-Y	2.26	1.80	1.49
11	11-164	1.83	1.46	1.25	11-164-¾W	2.46	1.97	1.69	11-164-Y	2.46	1.97	1.69
12	12-164	1.97	1.58	1.35	12-164-¾W	2.59	2.11	1.79	12-164-Y	2.59	2.11	1.79
13	13-164	2.11	1.74	1.42	13-164-¾W	2.89	2.34	1.94	13-164-Y	2.89	2.34	1.94
14	14-164	2.30	1.84	1.51	14-164-¾W	3.07	2.48	2.05	14-164-Y	3.07	2.48	2.05
15	15-164	2.47	1.95	1.68	15-164-¾W	3.28	2.63	2.22	15-164-Y	3.28	2.63	2.22

Series 164 terminal blocks are available with up to 21 positions; prices on request.

SERIES 176



Barrier terminal strips designed for flow solder termination to P.C. board conductor paths. Block listed are for 1/16" P.C. boards. To order blocks for 1/8" P.C. boards, change last digit to 3 (e.g., 2-176-3); same prices apply.

Cinch No.	Contacts	Net Each, Lots of 1-24	25-49	50-99
2-176-2	2	$1.42	$1.14	$0.96
3-176-2	3	1.61	1.31	1.08
4-176-2	4	1.80	1.46	1.25
5-176-2	5	1.97	1.58	1.34
6-176-2	6	2.16	1.75	1.47
7-176-2	7	2.35	1.87	1.57
8-176-2	8	2.51	2.03	1.71
9-176-2	9	2.74	2.19	1.84
10-176-2	10	2.95	2.38	2.00

ACCESSORIES FOR BARRIER TERMINALS

JUMPERS

Cinch No.	For Series	Net Each, Lots of 1-24	25-49	50-99
95B	142	$0.48	$0.366	$0.325
140J-1	140	.251	.221	.191
141J	141	.251	.221	.191
141J-1	141	.34	.251	.221
142J-1	142*	.34	.251	.221
142J-2	142*	.252	.221	.191
540J	540	.83	.78	.65
541J	541	1.04	.81	.68
542J	542	1.09	.86	.78

*Also fits 542 series.

SOLDER TERMINALS

Cinch Number W-Type	¾W-Type	Net Each, Lots of 1-24	25-49	50-99
W-140†	¾W-140	$0.33	$0.305	$0.277
W-141†	¾W-141	.33	.305	.277
W-142†	¾W-142	.384	.33	.305
W-150	.....	.603	.519	.416
W-151	.....	.846	.685	.578
W-152	.....	1.58	1.27	1.03

†Change prefix W to Y for Y-type terminals; prices slightly higher.

QUICK-CLAMP TERMINALS

Simplifies engaging of wires to barrier blocks. Set includes two mating clamps and one screw. No. QC-1 accommodates wire sizes 14 thru 22. No. QC-2 accommodates wires sizes 8 thru 16.

Cinch No.	For Series	Net Each, Lots of 1-24	25-49	50-99
QC-1	141/541	$0.37	$0.28	$0.26
QC-2	142/542	.37	.28	.26

CABLE CLAMPS

For use with series 160, 161 and 162 fanning strips. Nickel plated brass. Screw Furnished.

Cinch No.	I.D.	Net Each, Lots of 1-24	25-49	50-99
CC-161-4	¼"	$0.87	$0.70	$0.57
CC-161-6	⅜"	1.02	.87	.74
CC-161-8	½"	1.26	1.00	.87
CC-161-10	⅝"	1.40	1.12	1.00
CC-161-12	¾"	1.58	1.28	1.11
CC-161-14	⅞"	1.67	1.40	1.19

SERIES 172 (UL RECOGNIZED)

Contacts	TYPE 172 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 172-¼W* Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 172-Y Cinch No.	Net Each, Lots of 1-24	25-49	50-99
2	2-172	$0.91	$0.74	$0.65	2-172-¼W	$1.06	$0.83	$0.72	2-172-Y	$1.06	$0.83	$0.72
3	3-172	1.15	.91	.79	3-172-¼W	1.35	1.08	.90	3-172-Y	1.35	1.08	.90
4	4-172	1.39	1.14	.95	4-172-¼W	1.65	1.32	1.09	4-172-Y	1.65	1.32	1.09
5	5-172	1.65	1.32	1.09	5-172-¼W	1.93	1.51	1.32	5-172-Y	1.93	1.51	1.32
6	6-172	1.85	1.47	1.27	6-172-¼W	2.22	1.78	1.47	6-172-Y	2.22	1.78	1.47
7	7-172	2.08	1.71	1.41	7-172-¼W	2.53	2.02	1.71	7-172-Y	2.53	2.02	1.71
8	8-172	2.36	1.85	1.53	8-172-¼W	2.80	2.27	1.87	8-172-Y	2.80	2.27	1.87
9	9-172	2.53	2.04	1.75	9-172-¼W	3.06	2.48	2.05	9-172-Y	3.06	2.48	2.05
10	10-172	2.80	2.27	1.87	10-172-¼W	3.36	2.68	2.29	10-172-Y	3.36	2.68	2.29
11	11-172	3.03	2.42	2.03	11-172-¼W	3.67	2.95	2.47	11-172-Y	3.67	2.95	2.47
12	12-172	3.27	2.61	2.19	12-172-¼W	3.95	3.16	2.64	12-172-Y	3.95	3.16	2.64
13	13-172	3.50	2.80	2.37	13-172-¼W	4.26	3.43	2.88	13-172-Y	4.26	3.43	2.88
14	14-172	3.72	2.99	2.49	14-172-¼W	4.51	3.63	3.05	14-172-Y	4.51	3.63	3.05

*For two-sided W series, change ¾W to W; same prices.

SERIES 171, 173 AND 174 (UL RECOGNIZED)

Contacts	TYPE 171 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 173 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 174 Cinch No.	Net Each, Lots of 1-24	25-49	50-99
2	2-171	$0.50	$0.43	$0.39	2-173	$0.52	$0.43	$0.40	2-174	$0.44	$0.39	$0.32
3	3-171	.66	.50	.44	3-173	.73	.60	.47	3-174	.60	.46	.41
4	4-171	.77	.65	.52	4-173	.91	.76	.66	4-174	.74	.62	.49
5	5-171	.90	.74	.65	5-173	1.13	.90	.76	5-174	.85	.72	.63
6	6-171	1.06	.82	.72	6-173	1.32	1.06	.86	6-174	1.04	.81	.72
7	7-171	1.15	.91	.77	7-173	1.47	1.19	1.03	7-174	1.15	.91	.79
8	8-171	1.26	1.04	.83	8-173	1.69	1.34	1.13	8-174	1.32	1.06	.86
9	.....	....	....	....	9-173	1.83	1.46	1.26	9-174	1.42	1.15	.97
10	.....	....	....	....	10-173	2.02	1.65	1.35	10-174	1.53	1.26	1.07

SERIES 540, 541 AND 542 (UL RECOGNIZED)

Contacts	TYPE 540 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 541 Cinch No.	Net Each, Lots of 1-24	25-49	50-99	TYPE 542 Cinch No.	Net Each, Lots of 1-24	25-49	50-99
2	2-540	$1.02	$0.79	$0.70	2-541	$1.20	$1.02	$0.82	2-542	$1.32	$1.06	$0.86
3	3-540	1.35	1.08	.90	3-541	1.43	1.18	1.01	3-542	1.59	1.32	1.09
4	4-540	1.65	1.32	1.09	4-541	1.71	1.36	1.15	4-542	1.93	1.51	1.32
5	5-540	1.71	1.36	1.15	5-541	1.93	1.51	1.32	5-542	2.22	1.79	1.49
6	6-540	2.29	1.83	1.53	6-541	2.29	1.83	1.53	6-542	2.51	2.03	1.74
7	7-540	2.07	1.75	1.43	7-541	2.52	1.95	1.68	7-542	2.88	2.30	1.93
8	8-540	2.39	1.93	1.65	8-541	2.64	2.13	1.79	8-542	3.16	2.51	2.11
9	9-540	2.61	2.08	1.78	9-541	2.91	2.36	1.95	9-542	3.47	2.78	2.36
10	10-540	2.88	2.30	1.93	10-541	3.12	2.50	2.08	10-542	3.80	3.05	2.51
11	11-540	3.10	2.48	2.07	11-541	3.35	2.68	2.27	11-542	4.12	3.28	2.75
12	12-540	3.32	2.64	2.26	12-541	3.67	2.94	2.46	12-542	4.42	3.54	2.95
13	13-540	3.57	2.88	2.39	13-541	3.85	3.10	2.60	13-542	4.72	3.80	3.16
14	14-540	3.80	3.05	2.53	14-541	4.12	3.28	2.75	14-542	5.01	4.02	3.36
15	15-540	4.01	3.21	2.68	15-541	4.34	3.50	2.92	15-542	4.99	4.27	3.60
16	16-540	4.26	3.43	2.88	16-541	4.55	3.65	3.06	16-542	5.68	4.51	3.80
17	17-540	4.49	3.61	3.03	17-541	4.89	3.87	3.23	17-542	6.00	4.77	4.00
18	18-540	4.72	3.80	3.16	18-541	5.03	4.03	3.39	18-542	6.29	5.01	4.21
19	19-540	4.97	3.96	3.32	19-541	5.27	4.26	3.57	19-542	6.62	5.26	4.42
20	20-540	5.19	4.16	3.50	20-541	5.53	4.44	3.70	20-542	6.88	5.52	4.65
21	21-540	5.44	4.34	3.62	21-541	5.75	4.65	3.85	21-542	7.20	5.76	4.82
22	22-540	5.68	4.51	3.80	22-541	6.05	4.82	4.03	22-542	7.51	6.04	5.02
23	23-540	5.87	4.72	3.95	23-541	6.30	5.02	4.22	23-542	7.81	6.29	5.24
24	24-540	6.11	4.93	4.12	24-541	6.49	5.22	4.36	24-542	8.13	6.49	5.46
25	25-540	6.35	5.06	4.26	25-541	6.75	5.44	4.50	25-542	8.45	6.76	5.68
26	26-540	6.62	5.26	4.43	26-541	6.98	5.58	4.68	26-542	8.77	7.02	5.83

Series 540 terminal blocks are available with up to 31 positions, Series 541 up to 30 positions; prices on request.

MARKER STRIPS FOR BARRIER TERMINAL BLOCKS

140 SERIES MARKER STRIPS

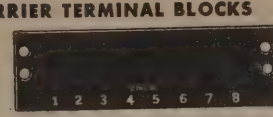
abelling terminal positions on barrier terminal blocks and ating exposed portions of terminals from metallic mounting ce. Mounting holes correspond with those on appropriate r terminal block. Made of ½" flame-retardant material and ered sequentially from 1 with legible white numerals.

o. of rms.*	For Plain, -W or -¾W Terminals Net Each, Lots of			For -Y Terminals Net Each, Lots of		
	1-24	25-49	50-99	1-24	25-49	50-99
FOR ALL SERIES 140						
2	$0.259	$0.20	$0.179	$0.299	$0.239	$0.20
3	.259	.20	.179	.299	.239	.20
4	.259	.20	.179	.299	.239	.20
5	.259	.20	.179	.336	.259	.22
6	.259	.20	.179	.336	.259	.22
7	.299	.239	.20	.336	.259	.22
8	.299	.239	.20	.336	.259	.22
9	.299	.239	.20	.336	.259	.22
10	.336	.259	.22	.373	.299	.259
11	.336	.259	.22	.373	.299	.259
12	.336	.259	.22	.373	.299	.259
13	.373	.299	.259	.416	.336	.277
14	.373	.299	.259	.416	.336	.277
15	.373	.299	.259	.416	.336	.277
16	.416	.336	.277	.454	.373	.317
17	.416	.336	.277	.454	.373	.317
18	.416	.336	.277	.454	.373	.317
19	.454	.373	.317	.513	.395	.336
20	.454	.373	.317	.513	.395	.336
21	.454	.373	.317	.513	.395	.336
22	1.098	.883	.745	1.174	.941	.784
23	1.098	.883	.745	1.174	.941	.784
24	1.331	1.059	.883	1.37	1.098	.922
25	1.331	1.059	.883	1.37	1.098	.922
FOR ALL SERIES 141						
2	$0.259	$0.20	$0.179	$0.299	$0.239	$0.20
3	.259	.20	.179	.336	.259	.22
4	.259	.20	.179	.336	.259	.22
5	.299	.239	.20	336	.259	.22
6	.299	.239	.20	.336	.259	.22
7	.299	.239	.20	.373	.299	.259
8	.336	.259	.22	.373	.299	.259
9	.336	.259	.22	.373	.299	.259
10	.336	.259	.22	.416	.336	.277
11	.373	.299	.259	.416	.336	.277
12	.373	.299	.259	.454	.373	.317
13	.416	.336	.277	.454	.373	.317
14	.416	.336	.277	.513	.395	.336
15	.454	.373	.317	.513	.395	.336
16	.454	.373	.317	.53	.434	.355
17	.513	.395	.336	.53	.434	.355
18	.513	.395	.336	.53	.434	.355
19	.53	.434	.355	.571	.454	.395
20	.53	.434	.355	.571	.454	.395
FOR ALL SERIES 142						
2	$0.259	$0.20	$0.179	$0.299	$0.239	$0.20
3	.259	.20	.179	.336	.259	.22
4	.299	.239	.20	.336	.259	.22
5	.299	.239	.20	.336	.259	.22
6	.299	.239	.20	.373	.299	.259
7	.336	.259	.22	.373	.299	.259
8	.336	.259	.22	.416	.336	.277
9	.373	.299	.259	.416	.336	.277
10	.373	.299	.259	.454	.373	.317
11	.416	.336	.277	.454	.373	.317
12	.454	.373	.317	.513	.395	.336
13	.454	.373	.317	.513	.395	.336
14	.513	.395	.336	.53	.434	.355
15	.513	.395	.336	.571	.454	.395
16	.571	.454	.395	.669	.53	.454
17	.63	.492	.416	.669	.53	.454
FOR ALL SERIES 150						
2	$0.336	$0.259	$0.22	$0.416	$0.336	$0.277
3	.336	.259	.22	.416	.336	.277
4	.373	.299	.259	.454	.373	.317
5	.373	.299	.259	.454	.373	.317
6	.373	.299	.259	.454	.373	.317
7	.416	.336	.277	.513	.395	.336
8	.416	.336	.277	.513	.395	.336
9	.454	.373	.317	.513	.395	.336
10	.513	.395	.336	.53	.434	.355

MARKER STRIPS FOR SERIES 151 AND 152

o. of rms.*	For Series 151 Net Each, Lots of			For Series 152 Net Each, Lots of		
	1-24	25-49	50-99	1-24	25-49	50-99
2	$0.373	$0.299	$0.259	$0.373	$0.299	$0.259
3	.373	.299	.259	.454	.373	.317
4	.416	.336	.277	.53	.434	.355
5	.454	.373	.317	.63	.492	.416
6	.53	.434	.355	.688	.55	.475
7	.571	.454	.395	....	....	....
8	.63	.492	.416	....	....	....

he proper Cinch Number is constructed by prefixing the No. Terminals with **MS-**; also add a suffix defining the proper series d another suffix defining the type of terminal: e.g. **MS-10-140-W**, for a marker strip to fit a block in the 140 Series with 10 minals of the ¾W type.



MS-8-140



MSX-4-540 (Installed)

500 SERIES MARKER STRIPS

For labelling terminal positions on "500" series barrier terminal blocks. Made of ⅛" Bakelite, ¼" wide. Numbered sequentially from 1 with ⅛" legible white numerals. Mounted on top of terminal block as illustrated. Mounting screws furnished.

MARKER STRIPS FOR 540

Cinch No.	Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
MSX-2-540	2	$0.336	$0.259	$0.22	$0.20	$0.179
MSX-3-540	3	.336	.259	.22	.20	.179
MSX-4-540	4	.336	.259	.22	.20	.179
MSX-5-540	5	.336	.259	.22	.20	.179
MSX-6-540	6	.336	.259	.22	.20	.179
MSX-7-540	7	.336	.259	.22	.20	.179
MSX-8-540	8	.336	.259	.22	.20	.179
MSX-9-540	9	.336	.259	.22	.20	.179
MSX-10-540	10	.336	.259	.22	.20	.179
MSX-11-540	11	.373	.299	.259	.22	.20
MSX-12-540	12	.373	.299	.259	.22	.20
MSX-13-540	13	.373	.299	.259	.22	.20
MSX-14-540	14	.373	.299	.259	.22	.20
MSX-15-540	15	.373	.299	.259	.22	.20
MSX-16-540	16	.373	.299	.259	.22	.20
MSX-17-540	17	.416	.336	.277	.239	.22
MSX-18-540	18	.416	.336	.277	.239	.22
MSX-19-540	19	.416	.336	.277	.239	.22
MSX-20-540	20	.416	.336	.277	.239	.22
MSX-21-540	21	.416	.336	.277	.239	.22
MSX-22-540	22	.454	.373	.317	.259	.239
MSX-23-540	23	.454	.373	.317	.259	.239
MSX-24-540	24	.53	.434	.355	.299	.277
MSX-25-540	25	.53	.434	.355	.299	.277
MSX-26-540	26	.53	.434	.355	.299	.277
MSX-27-540	27	.53	.434	.355	.299	.277
MSX-28-540	28	.53	.434	.355	.299	.277
MSX-29-540	29	.571	.454	.395	.317	.299
MSX-30-540	30	.571	.454	.395	.317	.299
MSX-31-540	31	.571	.454	.395	.317	.299

MARKER STRIPS FOR 541

MSX-2-541	2	$0.336	$0.259	$0.22	$0.20	$0.179
MSX-3-541	3	.336	.259	.22	.20	.179
MSX-4-541	4	.336	.259	.22	.20	.179
MSX-5-541	5	.336	.259	.22	.20	.179
MSX-6-541	6	.336	.259	.22	.20	.179
MSX-7-541	7	.336	.259	.22	.20	.179
MSX-8-541	8	.336	.259	.22	.20	.179
MSX-9-541	9	.336	.259	.22	.20	.179
MSX-10-541	10	.336	.259	.22	.20	.179
MSX-11-541	11	.373	.299	.259	.22	.20
MSX-12-541	12	.373	.299	.259	.22	.20
MSX-13-541	13	.373	.299	.259	.22	.20
MSX-14-541	14	.373	.299	.259	.22	.20
MSX-15-541	15	.373	.299	.259	.22	.20
MSX-16-541	16	.416	.336	.277	.239	.22
MSX-17-541	17	.416	.336	.277	.239	.22
MSX-18-541	18	.416	.336	.277	.239	.22
MSX-19-541	19	.416	.336	.277	.239	.22
MSX-20-541	20	.416	.336	.277	.239	.22
MSX-21-541	21	.513	.395	.336	.277	.259
MSX-22-541	22	.513	.395	.336	.277	.259
MSX-23-541	23	.53	.434	.355	.299	.277
MSX-24-541	24	.53	.434	.355	.299	.277
MSX-25-541	25	.53	.434	.355	.299	.277
MSX-26-541	26	.53	.434	.355	.299	.277
MSX-27-541	27	.53	.434	.355	.299	.277
MSX-28-541	28	.571	.454	.395	.317	.299
MSX-29-541	29	.571	.454	.395	.317	.299
MSX-30-541	30	.571	.454	.395	.317	.299

MARKER STRIPS FOR 542

MSX-2-542	2	$0.336	$0.259	$0.22	$0.20	$0.179
MSX-3-542	3	.336	.259	.22	.20	.179
MSX-4-542	4	.336	.259	.22	.20	.179
MSX-5-542	5	.336	.259	.22	.20	.179
MSX-6-542	6	.336	.259	.22	.20	.179
MSX-7-542	7	.373	.299	.259	.22	.20
MSX-8-542	8	.373	.299	.259	.22	.20
MSX-9-542	9	.373	.299	.259	.22	.20
MSX-10-542	10	.373	.299	.259	.22	.20
MSX-11-542	11	.373	.299	.259	.22	.20
MSX-12-542	12	.416	.336	.277	.239	.22
MSX-13-542	13	.416	.336	.277	.239	.22
MSX-14-542	14	.416	.336	.277	.239	.22
MSX-15-542	15	.416	.336	.277	.239	.22
MSX-16-542	16	.513	.395	.336	.277	.259
MSX-17-542	17	.513	.395	.336	.277	.259
MSX-18-542	18	.513	.395	.336	.277	.259
MSX-19-542	19	.53	.434	.355	.299	.277
MSX-20-542	20	.53	.434	.355	.299	.277
MSX-21-542	21	.53	.434	.355	.299	.277
MSX-22-542	22	.53	.434	.355	.299	.277
MSX-23-542	23	.53	.434	.355	.299	.277
MSX-24-542	24	.571	.454	.395	.317	.299
MSX-25-542	25	.571	.454	.395	.317	.299
MSX-26-542	26	.571	.454	.395	.317	.299

BARRIER BLOCK FANNING STRIPS


160


160A


160B


160BA


161, 162

Convenient means for rapidly connecting or disconnecting wiring from barrier terminal blocks. Facilitate cable or harness wiring and minimize the possibility of subsequent wiring errors. Available in both straight and angle types. Black XP phenolic mount, 3/32" thick x 1/2" wide, is supplied with hole in either right or left side; secures cable with lacing twine. For larger sizes, use of a cable clamp is recommended. Terminals are .032" cadmium-plated brass. **All 160 Series** fit barrier block 140 Series, 3/8" terminal centers. **Series 162** fit barrier block 142 Series, 3/16" terminal centers. **Series 161** fit barrier block 141 Series, 7/16" terminal centers.

STRAIGHT TYPE—160 SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-160-*	2	$0.76	$0.63	$0.56	$0.48	$0.45
3-160-*	3	.92	.76	.64	.56	.50
4-160-*	4	1.12	.92	.77	.64	.63
5-160-*	5	1.28	1.10	.92	.72	.70
6-160-*	6	1.50	1.22	1.01	.77	.76
7-160-*	7	1.68	1.37	1.12	.92	.90
8-160-*	8	1.83	1.50	1.24	1.02	1.00
9-160-*	9	2.14	1.68	1.44	1.12	1.11
10-160-*	10	2.32	1.90	1.58	1.24	1.13
11-160-*	11	2.57	2.01	1.74	1.40	1.28
12-160-*	12	2.85	2.24	1.94	1.56	1.50
13-160-*	13	3.10	2.51	2.14	1.68	1.59
14-160-*	14	3.26	2.60	2.19	1.76	1.66
15-160-*	15	3.38	2.70	2.24	1.83	1.76
16-160-*	16	3.66	2.94	2.51	1.98	1.90
17-160-*	17	3.62	2.87	2.45	1.91	1.89
18-160-*	18	3.95	3.14	2.67	2.15	2.01
19-160-*	19	4.17	3.30	2.84	2.22	2.18
20-160-*	20	4.32	3.47	2.94	2.32	2.21
21-160-*	21	4.56	3.66	3.09	2.42	2.32

STRAIGHT TYPE—160B SERIES

2-160B-*	2	$0.92	$0.76	$0.64	$0.56	$0.50
3-160B-*	3	1.12	.92	.77	.64	.63
4-160B-*	4	1.50	1.22	1.01	.77	.76
5-160B-*	5	1.76	1.43	1.23	.98	.92
6-160B-*	6	2.14	1.68	1.44	1.12	1.11
7-160B-*	7	2.32	1.90	1.58	1.24	1.23
8-160B-*	8	2.85	2.24	1.94	1.56	1.50
9-160B-*	9	3.14	2.57	2.15	1.68	1.59
10-160B-*	10	3.38	2.70	2.24	1.83	1.76
11-160B-*	11	3.78	3.00	2.57	2.01	1.97
12-160B-*	12	3.95	3.14	2.67	2.15	2.01
13-160B-*	13	4.32	3.47	2.94	2.32	2.21
14-160B-*	14	4.70	3.78	3.21	2.57	2.42
15-160B-*	15	5.04	4.01	3.33	2.68	2.57
16-160B-*	16	5.28	4.22	3.60	2.86	2.70
17-160B-*	17	5.36	4.31	3.62	2.87	2.73
18-160B-*	18	6.03	4.80	4.01	3.26	3.09
19-160B-*	19	6.39	5.15	4.28	3.46	3.26
20-160B-*	20	6.63	5.28	4.44	3.57	3.34
21-160B-*	21	6.92	5.55	4.68	3.72	3.57

STRAIGHT TYPE—161 SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-161-*	2	$0.80	$0.70	$0.58	$0.50	$0.48
3-161-*	3	1.02	.80	.70	.58	.56
4-161-*	4	1.12	.92	.77	.64	.63
5-161-*	5	1.37	1.11	.98	.76	.72
6-161-*	6	1.56	1.24	1.10	.80	.77
7-161-*	7	1.76	1.44	1.23	.98	.92
8-161-*	8	1.94	1.56	1.28	1.11	1.10
9-161-*	9	2.14	1.68	1.44	1.12	1.11
10-161-*	10	2.36	1.94	1.59	1.28	1.23
11-161-*	11	2.68	2.19	1.83	1.50	1.40
12-161-*	12	2.94	2.33	1.98	1.58	1.54
13-161-*	13	3.14	2.57	2.15	1.68	1.65
14-161-*	14	3.30	2.67	2.22	1.78	1.74
15-161-*	15	3.47	2.73	2.32	1.90	1.78
16-161-*	16	3.68	2.98	2.56	1.98	1.92
17-161-*	17	3.65	2.96	2.48	1.94	1.90
18-161-*	18	4.17	3.30	2.73	2.21	2.03
19-161-*	19	4.22	3.38	2.85	2.24	2.19
20-161-*	20	4.46	3.60	2.98	2.36	2.24

STRAIGHT TYPE—162 SERIES

2-162-*	2	$0.92	$0.76	$0.64	$0.56	$0.50
3-162-*	3	1.10	.90	.72	.63	.58
4-162-*	4	1.28	1.10	.92	.77	.70
5-162-*	5	1.50	1.22	1.01	.77	.76
6-162-*	6	1.68	1.50	1.24	1.02	1.00
7-162-*	7	1.72	1.50	1.24	1.02	.98
8-162-*	8	2.14	1.68	1.44	1.12	1.11
9-162-*	9	2.22	1.78	1.50	1.23	1.22
10-162-*	10	2.51	1.98	1.68	1.37	1.28
11-162-*	11	2.73	2.21	1.90	1.54	1.44
12-162-*	12	3.10	2.51	2.14	1.68	1.59
13-162-*	13	3.26	2.60	2.19	1.76	1.66
14-162-*	14	3.38	2.70	2.24	1.83	1.76
15-162-*	15	3.62	2.94	2.42	1.97	1.92
16-162-*	16	3.78	3.00	2.57	2.01	1.97
17-162-*	17	3.77	2.99	2.55	2.06	1.91

ANGLE TYPE—160A SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-160A-*	2	$0.92	$0.76	$0.64	$0.56	$0.50
3-160A-*	3	1.12	.92	.77	.64	.63
4-160A-*	4	1.50	1.22	1.01	.77	.76
5-160A-*	5	1.76	1.43	1.23	.98	.92
6-160A-*	6	2.14	1.68	1.44	1.12	1.11
7-160A-*	7	2.32	1.90	1.58	1.24	1.23
8-160A-*	8	2.85	2.24	1.94	1.56	1.50
9-160A-*	9	3.14	2.57	2.15	1.68	1.59
10-160A-*	10	3.38	2.70	2.24	1.83	1.76
11-160A-*	11	3.78	3.00	2.57	2.01	1.97
12-160A-*	12	3.95	3.14	2.67	2.15	2.01
13-160A-*	13	4.32	3.47	2.94	2.32	2.21
14-160A-*	14	4.70	3.78	3.21	2.57	2.42
15-160A-*	15	5.04	4.01	3.33	2.68	2.57
16-160A-*	16	5.28	4.22	3.60	2.86	2.70
17-160A-*	17	5.36	4.31	3.62	2.87	2.73
18-160A-*	18	6.03	4.80	4.01	3.26	3.09
19-160A-*	19	6.39	5.15	4.28	3.46	3.26
20-160A-*	20	6.63	5.28	4.44	3.57	3.34
21-160A-*	21	6.92	5.55	4.68	3.72	3.57

ANGLE TYPE—160BA SERIES

2-160BA-*	2	$0.92	$0.76	$0.64	$0.56	$0.50
3-160BA-*	3	1.12	.92	.77	.64	.63
4-160BA-*	4	1.50	1.22	1.01	.77	.76
5-160BA-*	5	1.76	1.43	1.23	.98	.92
6-160BA-*	6	2.14	1.68	1.44	1.12	1.11
7-160BA-*	7	2.32	1.90	1.58	1.24	1.23
8-160BA-*	8	2.85	2.24	1.94	1.56	1.50
9-160BA-*	9	3.14	2.57	2.15	1.68	1.59
10-160BA-*	10	3.38	2.70	2.24	1.83	1.76
11-160BA-*	11	3.78	3.00	2.57	2.01	1.97
12-160BA-*	12	3.95	3.14	2.67	2.15	2.01
13-160BA-*	13	4.32	3.47	2.94	2.32	2.21
14-160BA-*	14	4.70	3.78	3.21	2.57	2.42
15-160BA-*	15	5.04	4.01	3.33	2.68	2.57
16-160BA-*	16	5.28	4.22	3.60	2.86	2.70
17-160BA-*	17	5.36	4.31	3.62	2.87	2.73
18-160BA-*	18	6.03	4.80	4.01	3.26	3.09
19-160BA-*	19	6.39	5.15	4.28	3.46	3.26
20-160BA-*	20	6.63	5.28	4.44	3.57	3.34
21-160BA-*	21	6.92	5.55	4.68	3.72	3.57

ANGLE TYPE—161A SERIES

Cinch Number	No. of Term.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2-161A-*	2	$0.92	$0.76	$0.64	$0.56	$0.50
3-161A-*	3	1.12	.92	.77	.64	.63
4-161A-*	4	1.50	1.22	1.01	.77	.76
5-161A-*	5	1.76	1.43	1.23	.98	.92
6-161A-*	6	2.14	1.68	1.44	1.12	1.11
7-161A-*	7	2.32	1.90	1.58	1.24	1.23
8-161-A*	8	2.85	2.24	1.94	1.56	1.50
9-161A-*	9	3.14	2.57	2.15	1.68	1.59
10-161A-*	10	3.38	2.70	2.24	1.83	1.76
11-161A-*	11	3.78	3.00	2.57	2.01	1.97
12-161A-*	12	3.95	3.14	2.67	2.15	2.01
13-161A-*	13	4.32	3.47	2.94	2.32	2.21
14-161A-*	14	4.70	3.78	3.21	2.57	2.42
15-161A-*	15	5.04	4.01	3.33	2.68	2.57
16-161A-*	16	5.28	4.22	3.60	2.86	2.70
17-161A-*	17	5.36	4.31	3.62	2.87	2.73
18-161A-*	18	6.03	4.80	4.01	3.26	3.09
19-161A-*	19	6.39	5.15	4.28	3.46	3.26
20-161A-*	20	6.63	5.28	4.44	3.57	3.34

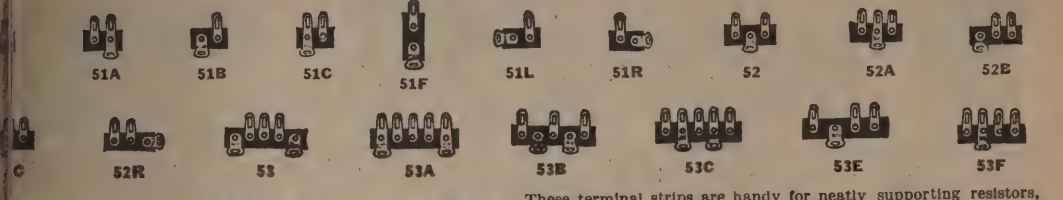
ANGLE TYPE—162A SERIES

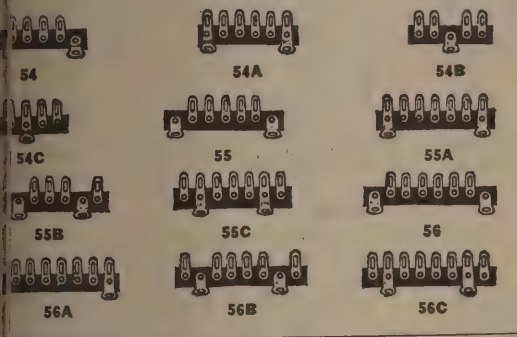
2-162A-*	2	$1.10	$0.90	$0.72	$0.63	$0.58
3-162A-*	3	1.28	1.10	1.02	.72	.70
4-162A-*	4	1.68	1.37	1.12	.92	.90
5-162A-*	5	1.94	1.56	1.28	1.10	1.02
6-162A-*	6	2.22	1.78	1.54	1.24	1.17
7-162A-*	7	2.51	1.98	1.68	1.37	1.25
8-162A-*	8	3.10	2.64	2.14	1.68	1.58
9-162A-*	9	3.30	2.67	2.22	1.78	1.74
10-162A-*	10	3.62	2.94	2.42	1.97	1.90
11-162A-*	11	3.95	3.14	2.67	2.15	2.01
12-162A-*	12	4.32	3.47	2.94	2.32	2.21
13-162A-*	13	4.59	3.68	3.10	2.56	2.33
14-162A-*	14	4.84	3.83	3.26	2.61	2.56
15-162A-*	15	5.15	4.17	3.47	2.73	2.64
16-162A-*	16	5.55	4.44	3.72	2.98	2.85
17-162A-*	17	5.58	4.48	3.77	2.99	2.85

*Add suffix **L** for cable clamp hole on left side (e.g., 17-160-**L**); add suffix **R** for cable clamp hole on right side (e.g., 17-160-**R**).

TERMINAL STRIPS AND SOCKETS

LUG-TYPE TERMINAL STRIPS





These terminal strips are handy for neatly supporting resistors, capacitors, etc. in circuit wiring. Cadmium-plated steel lugs are spaced on ¾″ centers with 0.140″ dia. mounting holes. Chocolate-colored phenolic is used. Strips are ¼″ thick and ⅜″ wide.

Cinch No.	Mtg. Ctrs.	Net Ea., Lots 1-24	Net Ea., Lots 25-49	Cinch No.	Mtg. Ctrs.	Net Ea., Lots 1-24	Net Ea., Lots 25-49
51	....	$0.254	$0.215	53C	¾″	$0.309	$0.264
51A	....	.254	.215	53E	....	.268	.23
51B	....	.255	.216	53F	....	.27	.232
51C	....	.254	.215	54	1⅞″	.346	.297
51F	....	.30	.257	54A	1⅞″	.35	.302
51L	....	.30	.257	54B	....	.30	.257
51R	....	.30	.257	54C	....	.309	.264
52	....	.285	.242	55	2¼″	.357	.31
52A	....	.296	.251	55A	2¼″	.36	.312
52B	....	.285	.242	55B	1½″	.357	.31
52C	....	.296	.251	55C	1½″	.36	.312
52R	....	.30	.257	56	2⅝″	.368	.32
53	1½″	.30	.257	56A	2⅝″	.372	.324
53A	1½″	.309	.264	56B	1⅞″	.368	.32
53B	¾″	.30	.257	56C	1⅞″	.372	.324

170 SERIES SOLDER TERMINAL STRIPS



Heavy solder terminals are made of .032″ brass, pretinned; mounted on ⅜″ centers. Black molded phenolic. Size, 3/16″ w. x ¼″ thick. Mounting holes, ⅜″ from center of end terminals.

Cinch Number	Con-tacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
1-170	1	$0.61	$0.55	$0.45	$0.38	$0.37	$0.32
2-170	2	.73	.61	.56	.50	.46	.45
3-170	3	.98	.79	.66	.59	.56	.55
4-170	4	1.14	.94	.73	.61	.60	.59
5-170	5	1.24	1.05	.88	.67	.66	.63
6-170	6	1.43	1.12	.97	.76	.71	.66
7-170	7	1.59	1.24	1.07	.88	.82	.81
8-170	8	1.61	1.34	1.12	.96	.89	.82
9-170	9	1.89	1.55	1.24	1.05	1.04	.94
10-170	10	2.07	1.61	1.37	1.14	1.07	1.05



2000 Series



Screw Strips

SERIES 2000 TERMINAL STRIPS

ompact, sturdy terminal strips for wiring, etc. Phenolic insula-on; cadmium-plated steel brackets with .140″ dia. mounting oles centered 5/32″ from bracket end. Terminals are tin-plated 19″ brass spaced on 5/16″ centers; last 2 digits of no. indicate o. of terminals (e.g., 2008 has 8 terminals).

Cinch No.	Mtg. Ctrs.	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499
2002	1″	$0.33	$0.32	$0.29	$0.25	$0.23
2003	1 5/16″	.37	.33	.32	.29	.25
2004	1 5/8″	.38	.37	.33	.32	.29
2005	1 15/16″	.38	.37	.33	.32	.29
2006	2 1/4″	.43	.38	.35	.33	.32
2007	2 9/16″	.43	.38	.35	.33	.32
2008	2 7/8″	.50	.42	.37	.35	.33
2009	3 3/16″	.55	.43	.38	.37	.35
2010	3 1/2″	.55	.43	.38	.37	.35
2011	3 13/16″	.59	.46	.43	.38	.37
2012	4 1/8″	.59	.46	.43	.38	.37
2013	4 7/16″	.63	.56	.46	.42	.38

SCREW TYPE TERMINAL STRIPS

deal design for chassis or breadboard layouts. Strips with 1 to lugs are 1/16″ thick XPC chocolate UL94HB; those with 7 to 10 erminals are 3/32″ thick. Ends of screws are captivated to prevent emoval; made of cadmium-plated steel. Terminals are cadmium-plated brass, spaced on 7/16″ centers. Mounting holes .136″ dia.

Cinch No.*	Mtg. Ctrs.	Net Ea., Lots 1-24	25-49	Cinch No.*	Mtg. Ctrs.	Net Ea., Lots 1-24	25-49
17-1	7/16″	$0.288	$0.255	17-6	3 1/16″	$0.719	$0.592
17-2	1 5/16″	.321	.288	17-7	3 1/2″	.878	.689
17-3	1 3/4″	.382	.321	17-8	3 15/16″	1.00	.84
17-4	2 3/16″	.508	.414	17-9	4 3/8″	1.24	.93
17-5	2 5/8″	.592	.46	17-10	4 13/16″	1.44	1.11

*Suffix indicates no. of terminals; e.g., 17-2 has 2 terminals.

★LARGER QUANTITY PRICES ON REQUEST.

TO-5 OR TO-18 LOW PROFILE TRANSISTOR SOCKETS

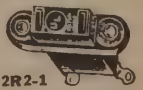


Mount directly to PC board with snug fit to prevent bleeding of solder and flux to opposite board surface. Chamfered socket holes minimize lead bending during insertion. Contact ends are watertight, formed so that solder and fluxes cannot enter barrelled contact to obstruct lead entry. TO-18 directly accepts TO-5. TO-5 accepts TO-18 if leads are left full length or formed to match TO-5 lead centers. Insulator molded from 20% glass filled nylon in black, natural, or green. Contacts are of beryllium copper gold plated. Maximum pin dia., 0.019″. Max. pin depth, 0.200″ ±0.010″. Max. insertion force, 5 ounces; withdrawal force, ¼ ounce at 3 and 100 cycles. Voltage ratings at sea level, 1500 AC rms, 2000 VDC. Current rating, 2.5 amperes. Contact resistance, 0.005 ohms. Insulation resistance, 100,000 megs. Low profile, only .130″ above PC board surface.

Cinch No.	Color	•Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
3-LPS-B	Black	$0.41	$0.328	$0.276	$0.221	$0.209	$0.202
3-LPS-N	Natural	.41	.328	.276	.221	.209	.202
3-LPS-G	Green	.41	.328	.276	.221	.209	.202

• DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR SOCKETS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

MODEL 2R2-1 110-125 VOLT POLARIZED SOCKET



2R2-1

Rated at 15 amps, 110 V. or 10 amps, 110–125 V. Accepts any standard 2-prong electric plugs. Mounts in 25/64″ x 25/32″ hole. Ideal for radio and TV chassis. UL Listed. Polarized.

Cinch Model 2R2-1—Net Each, Lots of
1–24.....**$0.87**; 25–49.....**$0.70**;
50–99.....**$0.58**; 100–249.....**$0.47**

LOW PROFILE WIRE WRAP® DIP SOCKETS



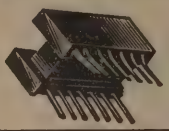
Provides higher board packing density. Accept standard 14 or 16 contacts size IC packages with flat or rolled leads. Contact resistance, 0.006 ohm max. Contacts of solid .025″ brass alloy. Wire Wrap, .687″ lg., enough for 3 wraps. Glass Nylon insulator is 15% glass-filled polyester, UL-94 V-O.

*Reg. Gardner-Denver TM.

Cinch No.	No. of Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
14-W-DIP*	14‡	$1.25	$1.02	$0.86	$0.69	$0.66	$0.63
14-W-DIP-1†	14‡	1.25	1.02	.86	.69	.66	.63
14-W-DIP-2*	14§	1.62	1.29	1.09	.87	.83	.81
14-W-DIP-3†	14§	1.62	1.29	1.09	.87	.83	.81
16-W-DIP*	16‡	1.53	1.22	1.03	.83	.78	.74
16-W-DIP-1†	16‡	1.53	1.22	1.03	.83	.78	.74
16-W-DIP-2*	16§	1.88	1.53	1.28	1.03	.98	.92
16-W-DIP-3†	16§	1.88	1.53	1.28	1.03	.98	.92

Insulator: *Black; †white. Contacts: ‡Electro-tin-plated; §gold plated.

DUAL-IN-LINE SOCKETS



Accepts standard 14, 16 or 24 dual-inline pkg., flat or round leads. Used with PC boards designed for direct insertion of DIP. Insulator of GP black phenolic with electro-tin beryllium copper plated contacts, withstands temp. from −65° C to +150° C.

Cinch No.	No. Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
14-DIP	14	$1.237	$0.99	$0.826	$0.662	$0.629	$0.596
14-N-DIP†	14	1.237	.99	.826	.662	.629	.596
14-DIP-1*	14	1.66	1.288	1.077	.859	.819	.777
14-N-DIP-1*†	14	1.66	1.288	1.077	.859	.819	.777
16-DIP	16	1.373	1.098	.916	.734	.698	.661
16-N-DIP†	16	1.373	1.098	.916	.734	.698	.661
16-DIP-1*	16	1.771	1.417	1.182	.943	.898	.851
16-N-DIP-1*†	16	1.771	1.417	1.182	.943	.898	.851
24-DIP	24	2.051	1.651	1.383	1.117	1.09	1.07
24-N-DIP†	24	2.051	1.651	1.383	1.117	1.09	1.07
24-DIP-1*	24	2.423	1.94	1.634	1.317	1.251	1.188
24-N-DIP-1*†	24	2.423	1.94	1.634	1.317	1.251	1.188

*Insulator of diallyl phthalate with gold plated contacts. †With narrow (square) leads to fit small-hole PC boards.

LOW PROFILE PRINTED CIRCUIT DIP SOCKETS



Economical DIP sockets for printed circuit board applications. **Insulator:** Valox #420, UL-94 V-O. **Contact Style:** Single beam, face grip. **Contact Material:** 1, Brass alloy 688 with .0001″ electroplated solder (60/40) over .0005″ copper; 2, CDA-521 phosphor bronze grade "C" with .00003″ gold over .0005″ nickel. **Terminals:** .012″ x .025″ x .125″ PC solder tails. **Current Rating:** 1 amp. **Lead Centers:** .100″.

Cinch No.	No. Contacts	Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
8E-DIP	8	$0.279	$0.224	$0.186	$0.15	$0.143	$0.135
8E-DIP-1*	8	.375	.30	.25	.201	.191	.181
14E-DIP	14	.366	.293	.245	.196	.186	.176
14E-DIP-4*	14	.54	.432	.361	.289	.275	.26
16E-DIP	16	.384	.307	.256	.205	.195	.184
16E-DIP-4*	16	.584	.468	.389	.312	.297	.281
18E-DIP	18	.393	.321	.272	.224	.215	.204
18E-DIP-4*	18	.713	.571	.476	.382	.363	.343
22E-DIP	22	.504	.405	.35	.32	.28	.243
22E-DIP-4*	22	.792	.634	.528	.424	.403	.382
24E-DIP	24	.54	.432	.361	.289	.275	.26
24E-DIP-4*	24	.852	.682	.569	.455	.432	.41
40E-DIP	40	.775	.620	.517	.413	.392	.38
40E-DIP-4*	40	1.305	1.05	.88	.71	.67	.63

*Gold inlay contacts; all others electroplated solder.

POWER TRANSISTOR SOCKETS
LAMINATED TYPE



Cinch No. 2TS-1 (Fig. A)—Top and bottom plates are NEMA grade XP phenolic, 94V-O. Contacts are of brass, cadmium plated. Formed thread for 6-20 screw. Has .104/.110″ dia. hole in CR steel plate. Provides easy attachment to a heat sink.

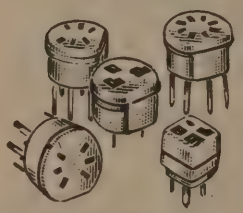
Net Each, Lots of 1-24.....**$0.218**; 25-49.....**$0.183**
50-99.....**$0.167**; 100-249... **.147**; 250-499... **.132**

MODEL 2TS-3 MOLDED TYPE (FIG. B)

Molded power transistor socket. Casting is molded of general purpose phenolic. Contacts are phosphor bronze, cadmium plated. Mounting holes are .098″ dia.; contact centers are .425/.435″.

Net Each, Lots of 1-24.....**$0.218**; 25-49.....**$0.183**
50-99.....**$0.167**; 100-249... **.147**; 250-499... **.132**

TO-5 AND TO-18 CASE SOCKETS



Rated at 1.0 ampere and 750 VAC (1020 VAC for SDG material). Insulation resistance is 1000 megohms minimum (50,000 megohms for SDG). Contact resistance, 0.05 ohm maximum. All units have dip solder terminations for PC board insertion. TO-18 case, 3-MSS-2, 4-MSS-2; all others TO-5 case.

Cinch No.	Ins. Mat.	Contacts	*Net Each, Lots of 1-24	25-49	50-99	100-249	250-499	500-999
3-MSS*	MFE	3	$0.338	$0.272	$0.226	$0.183	$0.174	$0.166
4-MSS*	MFE	4	.692	.555	.462	.37	.353	.336
6-MSS†	MFE	6	.953	.763	.636	.51	.488	.459
6-MSS-1	FEP	6	1.983	1.587	1.326	1.061	1.007	.955
8-MSS†	MFE	8	1.142	.915	.763	.611	.582	.552
6-ICS†	SDG	6	1.00	.81	.71	.61	.51	...
8-ICS†	SDG	8	1.21	.98	.82	.69	.67	...
10-ICS†	SDG	10	1.33	1.05	.91	.75	.71	...
3-MSS-2*	MFE	3	.478	.386	.32	.259	.246	.235
4-MSS-2*	MFE	4	.658	.527	.439	.353	.336	.318

Contact material and plating: *phosphor bronze—tin over copper; †beryllium copper—gold over copper.

MOLDED CONNECTOR PLUGS AND SOCKETS



MODEL 8PB 8 CONTACT PLUG (FIG. A)

Molded from high dielectric black phenolic. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on ⅛″ chassis using No. 8RO retaining ring. Will fit any standard octal socket.

Cinch No. 8PB—Net Ea., Lots of 1-24..**$0.73**; 25-49..**$0.61**
50-99.....**$0.53**; 100-249.....**$0.48**; 250-499..... **.46**

MODEL 11PB 11 CONTACT PLUG (FIG. B)

Molded from high dielectric black phenolic. Pins are nickel-plated and have tapered ends for easy insertion. Mounts on ⅛″ chassis using No. 8RO retaining ring. Will fit No. 11RB socket.

Cinch No. 11PB—Net Ea., Lots of 1-24..**$0.95**; 25-49..**$0.68**
50-99.....**$0.61**; 100-249.....**$0.53**; 250-499..... **.50**

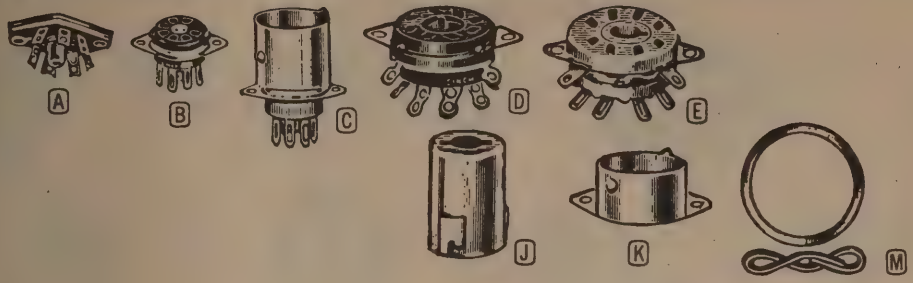
MODEL 11RB 11 CONTACT SOCKET (FIG. C)

Molded from high dielectric black phenolic. Solder coated brass contacts. Mounts on ⅛″ chassis using No. 8RO retaining ring. Mates with No. 11PB plug.

Cinch No. 11RB—Net Ea., Lots of 1-24..**$0.88**; 25-49..**$0.70**
50-99.....**$0.59**; 100-249.....**$0.51**; 250-499..... **.50**

★DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR SOCKETS HAVING GOLD PLATED TERMINALS WILL VARY. CHECK WITH US FOR THE LATEST QUOTATIONS.

TUBE SOCKETS AND ACCESSORIES



SOCKETS FOR 7-, 8-, 9- AND 12-PIN TUBES

Cinch No.	Fig.	No. of Contacts and Tube Group	Description	Construction Materials		Top or Bottom Mount	Mtg. Ctrs.	Net Each, Lots of				
				Insulator*	Contacts†			1-24	25-49	50-99	100-249	250-499
	B	7 miniature	Saddle	B	A	Bottom	7/8"	$0.419	$0.352	$0.319	$0.283	$0.253
	B	7 miniature	Saddle	C	A	Bottom	7/8"	.493	.392	.352	.319	.283
1	B	7 miniature	Saddle	B	C	Top	7/8"	.493	.392	.352	.319	.283
11	B	7 miniature	Saddle	C	A	Top	7/8"	.597	.457	.392	.352	.319
-3	B	7 miniature	Saddle	C	C	Bottom	7/8"	1.77	1.42	1.19	.927	.92
N-1	B	7 miniature	Saddle	C	B	Top	7/8"	1.77	1.42	1.19	.927	.92
N-2	B	7 miniature	Saddle	C	C	Top	7/8"	1.77	1.42	1.19	.927	.92
-2	C	7 miniature	Shield base	C	B	Top	7/8"	1.87	1.49	1.27	1.00	.95
1	C	7 miniature	Shield base	B	C	Top	7/8"	.633	.479	.414	.382	.352
11	C	7 miniature	Shield base	C	A	Top	7/8"	.727	.602	.507	.448	.414
	D	8 octal	Saddle	C	A	Bottom	15/16"	.482	.382	.348	.315	.28
	D	8 octal	Saddle	F	A	Bottom	15/16"	.65	.52	.48	.47	.43
	E	8 octal	Saddle	C	A	Bottom	1 1/2"	.482	.382	.348	.315	.28
	E	8 octal	Saddle	C	C	Bottom	1 1/2"	.65	.52	.48	.47	.43
	B	9 noval	Saddle	B	C	Top	1 1/8"	.482	.382	.348	.315	.28
	B	9 noval	Saddle	C	A	Top	1 1/8"	.65	.52	.48	.47	.43
	B	9 noval	Saddle	B	C	Bottom	1 1/8"	.482	.382	.348	.315	.28
	B	9 noval	Saddle	C	A	Bottom	1 1/8"	.65	.52	.48	.47	.43
	B	9 noval	Saddle	C	C	Bottom	1 1/8"	1.84	1.48	1.22	.98	.94
-3	B	9 noval	Saddle	C	B	Bottom	1 1/8"	1.84	1.48	1.22	.98	.94
-4	B	9 noval	Saddle	B	C	Top	1 1/8"	1.95	1.58	1.30	1.04	.99
N-1	B	9 noval	Saddle	C	C	Top	1 1/8"	1.95	1.58	1.30	1.04	.99
N-2	B	9 noval	Saddle	C	B	Top	1 1/8"	1.95	1.58	1.30	1.04	.99
	C	9 noval	Shield base	B	C	Top	1 1/8"	1.03	.93	.73	.64	.63
	C	9 noval	Shield base	C	A	Top	1 1/8"	1.03	.93	.73	.64	.63
-2	C	9 noval	Shield base	C	B	Top	1 1/4"	1.99	1.60	1.33	1.08	1.03

ulator material: A indicates chocolate phenolic; B, black phenolic; C, MFE plastic. †Contact material: A indicates cadmium-plated ss; B, silver-plated phosphor bronze; C, silver-plated beryllium copper. ‡Crimped retainer ring furnished. #Max. chassis thickness.

J-SLOT TUBE SHIELDS (FIG. J)

Cinch No.	Construction Materials	Lgth.	Net Each, Lots of				
			1-24	25-49	50-99	100-249	250-499
2	Steel	1 3/8"	$0.82	$0.60	$0.53	$0.52	$0.48
3	Steel	1 1/4"	.89	.69	.58	.53	.52
4	Steel	2 1/4"	1.17	.95	.86	.69	.60
J2-1	Brass	1 3/8"	1.17	.95	.86	.69	.60
J3-1	Brass	1 3/4"	1.34	.96	.89	.74	.69
J4-1	Brass	2 1/4"	1.46	1.17	.96	.86	.82
1	Steel	1 1/2"	1.56	1.26	1.10	.89	.86
2	Steel	1 15/16"	1.10	.89	.74	.60	.58
3	Steel	2 3/8"	1.96	1.56	1.41	1.10	.96
J1-1	Brass	1 1/2"	1.41	1.11	.90	.82	.74
J2-1	Brass	1 15/16"	1.56	1.26	1.10	.89	.86
J3-1	Brass	2 3/8"	1.70	1.41	1.17	.90	.89

SHIELD BASES (FIG. K)

Material: 7SB2, brass; others, steel.

Cinch No.	Dimensions, In.			Net Each, Lots of				
	H.	Mtg. Hole	Mtg. Ctrs.	1-24	25-49	50-99	100-249	250-499
7SB1	5/16	.125 dia.	1/2	$0.482	$0.414	$0.383	$0.355	$0.321
7SB2	5/16	.125 dia.	5/8	.731	.546	.444	.414	.383
9SB1	....	1/8 dia.	1 1/8	.66	.51	.50	.46	.44

MODEL 8RO RETAINER RING (FIG. M)

crimped retaining ring formed of .020" spring steel. Will securely chor sockets. Standard finish is cadmium.

nch No. 8RO—Net Each, Lots of: 1-24. **$0.46**; 25-49. **$0.44**
ts: 50-99... **$0.40**; 100-249... **$0.34**; 250-499... **.32**

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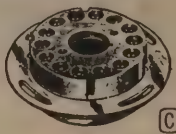
AS NEW PRODUCTS ARE DEVELOPED, WE WILL HAVE THEM AVAILABLE.

CALL OR WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

SOCKETS FOR SPECIAL PURPOSE TUBES


A

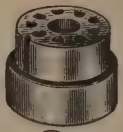

B


C


D


E


F


H


I

Cinch No.	Fig.	Number of Contacts and Tube Group	Type	Material		Net Each, Lots of				
				Insulator*	Contacts†	1-24	25-49	50-99	100-249	250-499
2B2ǂ	A	2 cetron	For CE701, CE702	A	A	$ 2.14	$ 1.70	$ 1.49	$1.16	$1.12
3B12	B	12 duodecal	For 10BP4, etc.	A	C	5.75	4.60	3.86	3.06	2.81
3B14ǂ	C	14 diheptal	CRT	A	C	6.77	5.42	4.52	3.62	3.44
3M12	B	12 duodecal	For 10BP4, etc.	B	C	6.64	5.28	4.41	3.57	3.40
3M14ǂ	C	14 diheptal	CRT	B	C	6.08	4.84	4.06	3.27	3.12
5NS	D	5 nuvistor	Crimp tab mount	B	A	.363	.302	.242	.23	.218
5NS-1	E	5 nuvistor	Saddle	B	A	.607	.486	.405	.324	.308
5NS-2	F	5 nuvistor	PC standoff	B	A	.804	.643	.54	.433	.393
7-VT	H	7 vidicon	For RCA vidicon	B	B	4.58	3.65	3.06	2.47	2.37
8-VT	H	8 vidicon	For RCA vidicon	B	B	4.91	3.89	3.29	2.64	2.50
20-PM	I	20 photomulti	For RCA 6810, etc.	C	A	14.91	14.46	12.06	9.69	9.22

*Insulator material: A indicates black phenolic; B, MFE plastic; C, MAI-60 alkyd glass fiber. †Contact material: A indicates cadmium plated brass; B, silver plated phosphor bronze; C, silver plated beryllium copper. ‡Larger qty. prices on request. ǂMtg. ring require

MOUNTING RINGS

Cinch No. 2MR—Mounting ring for No. 2B2.
Net Each, Lots of: 1-24.....**$0.304**; 25-49.....**$0.262**
Lots: 50-99.**$0.220**; 100-249..**$0.175**; 250-499.. **0.136**

Cinch No. 3R14—Steel mounting ring for Nos. 3B14 and 3M1
Net Each, Lots of: 1-24.**$2.56**; 25-49.**$2.95** 50-99.**$2.32**
Lots: 100-249..**$1.99**; 250-499..**$1.59**; 500-999.. **1.5**

PRINTED CIRCUIT TUBE SOCKETS


A


C


D

Center-shield types have special tabs to prevent the tube shields from contacting the printed wire chassis.

Cinch No.	Fig.	No. of Contacts and Tube Group	Description	Material		Net Each, Lots of				
				Insulator*	Contacts†	1-24	25-49	50-99	100-249	250-499
7PC-B1	A	7 miniature	No shield or tabs	A	A	$0.352	$0.319	$0.287	$0.259	$0.229
9PC-B	C	9 noval	Center shield and tabs	B	B	.482	.382	.348	.315	.28
9PC-B1	C	9 noval	No shield or tabs	A	A	.482	.382	.348	.315	.28
9PC-M2	D	9 noval	Shield base, center shield and tabs	B	B	3.64	2.90	2.52	1.97	1.92

*Insulator material: A indicates black phenolic; B, mica-filled phenolic. †Contact material: A indicates hot solder-coated brass; B, ho tinned-phosphor bronze.

RELAY AND PLUG-IN CAPACITOR SOCKETS


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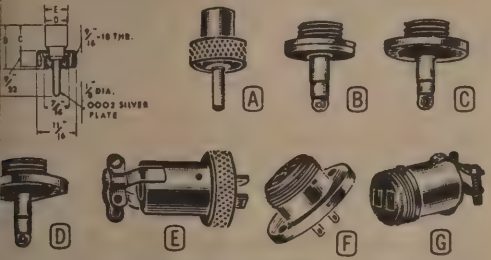

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Ⓒ

ch o.	Relay or Cap.	Fig.	No. of Contacts and Shape	Materials: Insulator*	Materials: Contacts†	Socket Type	Top or Bottom Mount	Mtg. Ctrs. or Size	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499
	Relay	A	8 rectangular	A	A	Clip mt.	Top	‡	$1.00	$0.81	$0.71	$0.61	$0.55
S-2	Relay	B	16 rectangular	B	B	Top mt.	Top	1⅛" x 1⅛"	2.16	1.75	1.44	1.17	1.13
S-3	Relay	....	16 rectangular	B	C•	Top mt.	Top	1⅛" x 1⅛"	2.59	2.08	1.76	1.40	1.36
S	Relay	C	28 rectangular	B	B	Top mt.	Top	1⅛" x 1.960"	3.23	2.57	2.16	1.75	1.67
S-1	Relay	....	28 rectangular	B	C•	Top mt.	Top	1⅛" x 1.960"	3.35	3.14	2.65	2.11	2.05

sulator material: A indicates low mica-filled phenolic; B, high dielectric phenolic. †Contact material: A indicates silver-plated beryl- n copper; B, cadmium plated; C, gold plated. ‡Fits following relays: Advance MV-2C, AEMCO 95-3274, Brubaker K110A, Filtors 6.A1.P.6A, G.E. D300A and G-203A, P&B SL and Ace 50-6-A (single-contact type); C-J No. 20731 clip included.
ices for sockets with gold plated terminals will vary. Check us for latest quotations.

AUDIO PLUGS AND SOCKETS



SERIES 101 SOCKETS

ss base, bright nickel finish. Brass contact is silver plated. ulation is of low loss natural color XXX phenolic. Phenolic No. S-101-D is recessed in the base. Two sides of base of . S-101-D Mod are milled. Mounting Holes: No. S-101, drill on 1⅛" centers; all others, #30 drill on 1⅜" centers.

Cinch Number	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
S-101	B	$1.54	$1.22	$1.05	$0.84	$0.80
S-101-D	C	2.32	1.83	1.56	1.29	1.21
S-101-MD	D	2.32	1.83	1.56	1.29	1.21

SERIES 101 PLUGS (FIG. A)

All plugs are identical except the cable ferrule which is furnished in two sizes listed below. All metal parts are of brass. Fit 101 Series sockets. Ideal for high frequency connections.

Cinch No.	A	B	C	D	E
P-101-¼"	1¼"	⅜"	7/16"	¼"	9/32"
P-101- 290	1¼"	¼"	7/16"	.290"	.319"

QUANTITY PRICES FOR SERIES 101 PLUGS

Cinch Number	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
P-101-¼"	$1.62	$1.30	$1.09	$0.85	$0.84
P-101-290	1.96	1.58	1.34	1.06	1.04

SERIES 202 PLUGS AND SOCKETS

Made in two contacts only. Brass metal parts with bright nickel finish. Molded phenolic insulation. Phosphor bronze "knife switch" type socket contacts engage both sides of flat brass plug contacts—double contact area. Formed fiber linings in caps. Polarized. Knurled nut has ¾"-27 thread. Socket mounting holes, #30 drill on 1" centers. No. S-202-CCT-THR, when used with No. P-202-CCT, will make an ideal microphone connector.

Cinch Number	Fig.	Net Each, Lots of: 1-24	25-49	50-99	100-249	250-499*
P-202-CCT	E	$2.03	$1.62	$1.39	$1.11	$1.04
S-202-CCT	E*	1.18	.99	.81	.67	.65
S-202-B	F	2.43	1.98	1.65	1.34	1.29
P-202-B	F†	2.57	2.10	1.79	1.43	1.24
S-202-CCT-THR	G	2.70	2.20	1.82	1.45	1.42

*Socket instead of plug. †Plug instead of socket.
★LARGER QUANTITY PRICING AVAILABLE ON REQUEST

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

Boston Phone (617) 328-4600

CINCH-RIBBON CONNECTOR SYSTEMS

SOLDERLESS CINCH-RIBBON CONNECTOR SYSTEM
FOR TERMINATION OF SOLID WIRE



Intermateable and interchangeable with over 300 million ribbon connectors currently in use. Terminates with semi-automatic or field assembly tools. Four gas-tight connections for each conductor. Termination speeds far exceed conventional soldering techniques. Accommodates 24 and 26 gauge solid wire, insulated with either standard or irradiated PVC. Built-in strain relief for each conductor prevents inadvertant wire removal. Compatible with existing Cinch-Ribbon hardware. No stripping of wires required for perfect connections, when terminated with Cinch Auto-Clinch, Certi-Clinch or Mini-Clinch tools.

CONSTRUCTION DETAILS

The wire-terminating end of the contact has four indents, constructed and shaped to peel the insulation off the wire at these points. As the wire enters, the insulation is peeled off by the ramp area of the contact indents. The remaining inside areas of the indents are coined and relatively sharp. As the wire, with the insulation removed, progresses into the remaining contact pocket, the transition area permits the conductor to be deformed (pinched) and held between each set of the two opposing indented sections, resulting in four gas-tight connections on each conductor. Strain-relief tabs, at the end of the contact, hold the conductor in place.

FEATURES

Miniaturized solderless Clinch-Ribbon connectors utilize the "ribbon" contact feature. Smooth, easy mating/unmating action plus the double-sided, self-cleaning, wiping action of both mating contact members provide added reliability. Insulation material of 30% glass-filled polyester; UL rated 94V-O. Contact material of copper-base alloy with gold finish per MIL-G-45204, Type 2 over .00005" copper per MIL-C-14550. Selectively gold plated with .00004" in contact-mating area and .00005" in contact-terminating area. Shells of zinc-plated steel with clear chromate finish.

RACK AND PANEL PLUGS AND RECEPTACLES

Shell-type polarization and float-mounted receptacle assure proper alignment. Available with 14, 24, 36 or 50 contacts.

Cinch No.	Description	Net Each, Lots of 1-9	10-49	50-99	100-249
77-12140	Plug	$2.70	$2.27	$1.84	$1.71
77-22140	Receptacle	2.77	2.35	1.88	1.74
77-12240	Plug	3.62	3.05	2.63	2.23
77-22240	Receptacle	3.69	3.11	2.55	2.27
77-12360	Plug	4.13	3.48	2.84	2.85
77-22360	Receptacle	4.24	3.56	2.90	2.62
77-12500	Plug	5.44	4.59	3.71	3.33
77-22500	Receptacle	5.49	4.64	3.78	3.39

CABLE TO CHASSIS PLUGS AND RECEPTACLES

Plug equipped with hood and cable clamp; receptacle has sturdy spring-type latches, guided and held by cutouts in plug hood flanges. Available with 14, 24, 36 or 50 contacts.

Cinch No.	Description	Net Each, Lots of 1-9	10-49	50-99	100-249
77-32140	Plug	$5.18	$4.49	$3.53	$3.18
77-42140	Receptacle	3.69	2.89	2.35	2.12
77-32240	Plug	5.70	4.77	3.87	3.48
77-42240	Receptacle	4.06	3.41	2.77	2.50
77-32360	Plug	6.95	5.86	4.74	4.25
77-42360	Receptacle	4.37	3.69	2.99	2.68
77-32500	Plug	7.62	6.42	5.22	4.68
77-42500	Receptacle	5.72	4.81	3.89	3.50

CABLE TO CABLE PLUGS AND RECEPTACLES

Both plug and receptacle equipped with hood and cable clamp. Available in 50-contact size only. Standard (deep) hood type listed; shallow hoods available on request.

Cinch No.	Description	Net Each, Lots of 1-9	10-49	50-99	100-249
77-72500	Plug	$5.34	$4.50	$3.66	$3.27
77-82500	Receptacle	5.34	4.50	3.66	3.27

CINCH RIBBON TOOLS

Part No.	Factory No.	Description	Net Ea.
SRT-358	599-11-11-358	Repair tool pliers	$ 16.54
SCT-334	599-11-11-334	Certi-Clinch for solid wire	446.52
SCTU-359	599-11-11-359	Certi-Clinch for both solid and stranded wire	523.69

CINCH-RIBBON SOLDER CONNECTORS



Extremely small, ribbon-contact connectors suited for airborne and computer applications with high reliability. Shell type polarization; easily inserted or withdrawn without visual aid; self-wiping, self-cleaning contacts in units up to 50 per connector. Float-mounted receptacle prevents misalignment. **Current:** 5 amps. **Voltage:** 700 VDC at sea level; 200 VDC at 70,000 ft. **Insulator:** Diallyl phthalate per MIL-M-14F. **Contacts:** Copper alloy with a finish of gold per MIL-G-45204, Type 2 over copper per MIL-C-14550. **Shells:** Steel with a finish of zinc and clear chromate. 10500, 20500-6, -7 have additional insulator between opposite rows of contacts. Dimensions on request. Cable plugs with hoods, chassis-mounted sockets with spring latches.

●DUE TO THE INSTABILITY IN THE COST OF GOLD, ALL PRICES FOR CONNECTORS HAVING GOLD TERMINALS WILL VARY. CHECK US FOR THE LATEST QUOTATIONS.

Cinch No. 57-	Type	Contacts	*Net Each, Lots of 1-9	10-49	50-99	100-249	250-999	1000-2499
10140	R & P Plug	14	$2.85	$2.39	$1.94	$1.80	$1.45	$1.32
10240	R & P Plug	24	3.81	3.21	2.76	2.35	1.93	1.77
10360	R & P Plug	36	4.34	3.67	2.98	2.68	2.19	1.97
10500	R & P Plug	50	5.72	4.83	3.90	3.48	2.89	2.68
10500-6	R & P Plug	50	5.78	4.91	3.97	3.56	2.96	2.67
10500-7	R & P Plug	50	6.49	5.50	4.47	3.92	3.27	2.94
20140	R & P Sckt.	14	2.92	2.47	1.97	1.83	1.47	1.36
20240	R & P Sckt.	24	3.88	3.27	2.68	2.39	1.95	1.81
20360	R & P Sckt.	36	4.46	3.74	3.05	2.75	2.25	2.06
20500	R & P Sckt.	50	5.77	4.90	3.96	3.56	2.92	2.56
20500-6	R & P Sckt.	50	6.03	5.11	4.16	3.73	3.06	2.76
20500-7	R & P Sckt.	50	6.83	5.80	4.70	4.16	3.44	3.13
30140	Cable Plug	14	5.44	4.71	3.71	3.35	2.76	2.48
30240	Cable Plug	24	5.98	5.01	4.08	3.67	3.00	2.73
30360	Cable Plug	36	7.31	6.16	4.98	4.47	3.69	3.34
30500	Cable Plug	50	8.01	6.72	5.48	4.92	4.06	3.65
40140	Chassis Skt.	14	3.87	3.02	2.47	2.21	1.84	1.65
40240	Chassis Skt.	24	4.26	3.59	2.92	2.63	2.17	1.94
40360	Chassis Skt.	36	4.60	3.88	3.14	2.83	2.33	2.12
40500	Chassis Skt.	50	6.01	5.06	4.10	3.68	3.02	2.75

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.

MICRO-HOOK TEST CONNECTORS

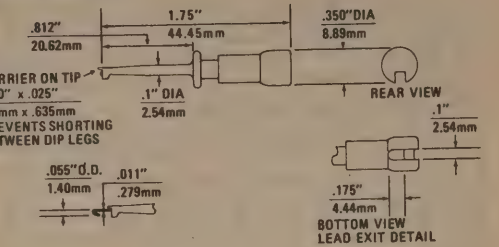
E-Z-MICRO-HOOK Model XM is designed for difficult onnections. Light weight and Finger-eze Hypo Action per-irect hook up to delicate wires (up to .025") where weight leverage may damage components. Insulated to single con-point to assure true readings. One-piece beryllium copper, -plated conductor and hook. Chemical resistant nylon and plunger. Stainless steel coil spring. Available in k, brown, red, orange, yellow, green, blue, violet, gray or e, plus any of the 1000 color combinations in the Kilo-or system. Specify color when ordering.

-Hook No. XM Micro-Hook Connector—Net Each **$0.95**

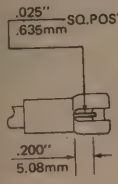
-Hook No. XM-S—Assortment of 1 each of ten colors. Each **$9.50**

-Hook No. XM-NM—Same as XM, except has non-magnetic spring. Net Each **$1.05**

-Hook No. XM-NM-S—Assortment of 1 each of ten colors. Each **$10.50**



MODEL XM25



The XM type Micro-Hook with a .025" (.635 mm) square post built into the plunger.

E-Z-Hook No. XM25 Micro-Hook Net Each **$1.85**

E-Z-Hook No. XM25-S—Assortment of 1 each of ten colors. Net Each **$18.50**

E-Z-Hook No. XM25-14S—Assortment of 14 connectors. Net Each **$25.90**

E-Z-Hook No. XM25-16S—Assortment of 16 connectors. Net Each **$26.60**

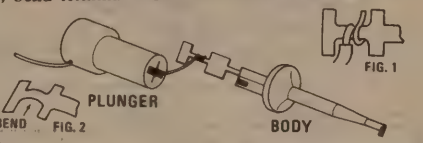
MICRO-HOOK TEST LEADS

t leads combining the No. XM Micro-Hook with various nnectors on the other end. Leads are extra-flexible, insulated rmoplastic No. 22 AWG wire with 65 × 40 tinned strand-

E-Z-Hook No.	Lead Length	Second Connector	Net Each
XM	32"	.080" pin plug	$ 1.75
XM-S	32"	Ass't of AXM in ten colors	17.50
XM	32"	Standard banana plug	1.75
XM-S	32"	Ass't of ten colors	17.50
XM	32"	Miniature banana plug	2.00
XM-S	32"	Ass't of ten colors	20.00
XM	32"	Stacking min. banana plug	2.05
XM-S	32"	Ass't of ten colors	20.50
XM	32"	Stacking banana plug	1.85
XM-S	32"	Ass't of ten colors	18.50
2XM	32"	Stacking .080" pin plug	2.05
2XM-S	32"	Ass't of ten colors	20.50
3XM-6†	6"	.025" square insulated socket	1.75
3XM-6-S†	6"	Ass't of ten colors	17.50
3XM-12†	12"	.025" square insulated socket	1.75
3XM-12-S†	12"	Ass't of ten colors	17.50
3XM-18†	18"	.025" square insulated socket	1.75
3XM-18-S†	18"	Ass't of ten colors	17.50
3XM-24†	24"	.025" square insulated socket	1.75
3XM-24-S†	24"	Ass't of ten colors	17.50
3XM-36†	36"	.025" square insulated socket	1.75
3XM-36-S†	36"	Ass't of ten colors	17.50
3XM-48†	48"	.025" square insulated socket	1.85
3XM-48-S†	48"	Ass't of ten colors	18.50
3XM-60†	60"	.025" square insulated socket	1.95
3XM-60-S†	60"	Ass't of ten colors	19.50
0XM-6†	6"	.025" square pin plug	1.70
0XM-6-S†	6"	Ass't of ten colors	17.00
0XM-12†	12"	.025" square pin plug	1.70
0XM-12-S†	12"	Ass't of ten colors	17.00
0XM-18†	18"	.025" square pin plug	1.70
0XM-18-S†	18"	Ass't of ten colors	17.00
0XM-24†	24"	.025" square pin plug	1.70
0XM-24-S†	24"	Ass't of ten colors	17.00
0XM-36†	36"	.025" square pin plug	1.70

FIELD SERVICEABLE

To connect or replace leads, pull straight out on plunger until it slips free of body. Strip lead wire 3/4", feed wire through plunger and wrap around terminal as shown in Fig. 1. Solder. Cut off excess wire at solder point. Reassemble, making sure terminal and nylon fin enter their respective grooves. Keep slack out of lead wire while assembling. If assembly slides too freely, bend terminal slightly as shown in Fig. 2.



E-Z-Hook No.	Lead Length	Second Connector	Net Each
230XM-36-S†	36"	Ass't of ten colors	$17.00
230XM-48†	48"	.025" square pin plug	1.80
230XM-48-S†	48"	Ass't of ten colors	18.00
230XM-60†	60"	.025" square pin plug	1.90
230XM-60-S†	60"	Ass't of ten colors	19.00
204XM-3	3"	Micro-Hook	2.15
204XM-3-S	3"	Ass't of ten colors	21.50
204XM-6	6"	Micro-Hook	2.15
204XM-6-S	6"	Ass't of ten colors	21.50
204XM-12	12"	Micro-Hook	2.15
204XM-12-S	12"	Ass't of ten colors	21.50
204XM-18	18"	Micro-Hook	2.15
204XM-18-S	18"	Ass't of ten colors	21.50
204XM-24	24"	Micro-Hook	2.15
204XM-24-S	24"	Ass't of ten colors	21.50
204XM-36	36"	Micro-Hook	2.15
204XM-36-S	36"	Ass't of ten colors	21.50
204XM-48	48"	Micro-Hook	2.20
204XM-48-S	48"	Ass't of ten colors	22.00
204XM-60	60"	Micro-Hook	2.30
204XM-60-S	60"	Ass't of ten colors	23.00
304XM-3*	3"	Micro-Hook	2.40
304XM-3-S*	3"	Ass't of ten colors	24.00
304XM-6*	6"	Micro-Hook	2.40
304XM-6-S*	6"	Ass't of ten colors	24.00
304XM-12*	12"	Micro-Hook	2.40
304XM-12-S*	12"	Ass't of ten colors	24.00
304XM-18*	18"	Micro-Hook	2.40
304XM-18-S*	18"	Ass't of ten colors	24.00
304XM-24*	24"	Micro-Hook	2.40
304XM-24-S*	24"	Ass't of ten colors	24.00
304XM-36*	36"	Micro-Hook	2.40
304XM-36-S*	36"	Ass't of ten colors	2.40
304XM-48*	48"	Micro-Hook	2.50
304XM-48-S*	48"	Ass't of ten colors	25.00
304XM-60*	60"	Micro-Hook	2.60
304XM-60-S*	60"	Ass't of ten colors	26.00

*Lead wire is No. 24 AWG with 19 × 36 silver coated stranding and Teflon insulation. †Also available with No. 28 AWG wire with 7 × 36 tinned stranding; to order, change first digit of number to **7**; prices are the same as the 204XM Series.

PISTOL GRIP TEST CONNECTORS

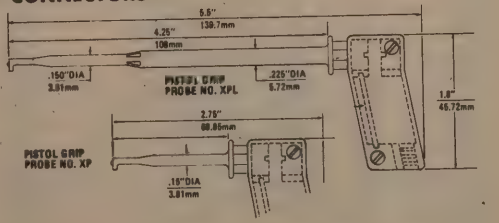
Mini-Hook size and convenience with provisions for building n circuitry. Epoxy glass board, 1" × 0.6", enclosed in handle. train relief, coaxial cable clamp and cable exit hole built nto butt of grip. Designed for RG58C/U, but adaptable to ther sizes. Available in ten standard colors for the body; istol grip is black. Specify color when ordering.

E-Z-Hook No. XP1 Test Connector—Net Each **$2.60**

E-Z-Hook No. XP1-NM—Same as XP1, except has non-magetic spring. Net Each **$2.70**

E-Z-Hook No. XPL1—Same as XP1, except 2 3/4" longer. Net Each **$3.30**

E-Z-Hook No. XPL1-NM—Same as XPL1, except has non-magetic spring. Net Each **$3.40**



MINI-HOOK TEST CONNECTORS

The Mini-Hook bridges the gap between the Micro-Hook and the Macro-Hook. Will connect to leads up to .040" or will fit vertically onto square .025" wire wrap posts. Available in

E-Z-Hook No. X100W Mini-Hook Connector—Net Each . . . $0.90

E-Z-Hook No. X100W-S—Assortment of 1 each of ten colors. Net Each . . . $9.00

E-Z-Hook No. X100W-NM—X100W with non-magnetic spring. Net Each . . . $1.00

E-Z-Hook No. X100W-NM-S—Assortment of 1 each of ten colors. Net Each . . . $10.00

E-Z-Hook No. XR—Same as No. X100W, except foot and hook have been enlarged to accommodate wires to .059". Net Each . . . $1.10

E-Z-Hook No. XR-S—Assortment of 1 each of ten colors. Net Each . . . $11.00

E-Z-Hook No. XR25—Same as No. XR, except that a .025" square post is built into the plunger. Net Each . . . $1.50

E-Z-Hook No. XR25-S—Assortment of 1 each of ten colors. Net Each . . . $15.00

E-Z-Hook No. XL1—Same as No. X100W, except 2 3/4" longer. Net Each . . . $1.60

E-Z-Hook No. XL1-S—Assortment of 1 each of ten colors. Net Each . . . $16.00

E-Z-Hook No. XL1-NM—Same as No. XL1, except has non-magnetic spring. Net Each . . . $1.70

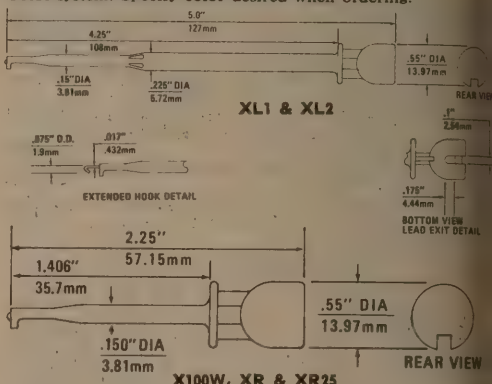
E-Z-Hook No. XL1-NM-S—Assortment of 1 each of ten colors. Net Each . . . $17.00

MINI-HOOK TEST LEADS

Test leads combining the X100W Mini-Hook with various connectors on the other end. Leads are extra-flexible, insulated thermoplastic No. 22 AWG wire with 65 × 40 tinned stranding.

E-Z-Hook No.	Lead Length	Second Connector	Net Each
AX-1W	32"	.080" pin plug	$ 1.70
AX-1W-S	32"	Ass't of AX-1W in ten colors	17.00
BX-1W	32"	Standard banana plug	1.70
BX-1W-S	32"	Ass't of ten colors	17.00
CX-1W	32"	Miniature banana plug	1.95
CX-1W-S	32"	Ass't of ten colors	19.50
216W	32"	Stacking min. banana plug	2.00
216W-S	32"	Ass't of ten colors	20.00
201W	32"	Stacking banana plug	1.75
201W-S	32"	Ass't of ten colors	17.50
202W	32"	.080" stacking pin plug	2.00
202W-S	32"	Ass't of ten colors	20.00
203-6W†	6"	.025" square insulated socket	1.70
203-6W-S†	6"	Ass't of ten colors	17.00
203-12W*	12"	.025" square insulated socket	1.70
203-12W-S†	12"	Ass't of ten colors	17.00
203-18W†	18"	.025" square insulated socket	1.70
203-18W-S†	18"	Ass't of ten colors	17.00
203-24W†	24"	.025" square insulated socket	1.70
203-24W-S†	24"	Ass't of ten colors	17.00
203-36W†	36"	.025" square insulated socket	1.70
203-36W-S†	36"	Ass't of ten colors	17.00
203-48W†	48"	.025" square insulated socket	1.80
203-48W-S†	48"	Ass't of ten colors	18.00
203-60W†	60"	.025" square insulated socket	1.90
203-60W-S†	60"	Ass't of ten colors	19.00
230-6W†	6"	.025" square pin plug	1.70
230-6W-S†	6"	Ass't of ten colors	17.00
230-12W†	12"	.025" square pin plug	1.70
230-12W-S†	12"	Ass't of ten colors	17.00
230-18W†	18"	.025" square pin plug	1.70
230-18W-S†	18"	Ass't of ten colors	17.00
230-24W†	24"	.025" square pin plug	1.70
230-24W-S†	24"	Ass't of ten colors	17.00
230-36W†	36"	.025" square pin plug	1.70
230-36W-S†	36"	Ass't of ten colors	17.00
230-48W†	48"	.025" square pin plug	1.80
230-48W-S†	48"	Ass't of ten colors	18.00
230-60W†	60"	.025" square pin plug	1.90
230-60W-S†	60"	Ass't of ten colors	19.00
204-6W	6"	Mini-Hook X100W	1.95
204-6W-S	6"	Ass't of ten colors	19.50
204-12W	12"	Mini-Hook X100W	1.95
204-12W-S	12"	Ass't of ten colors	19.50
204-18W	18"	Mini-Hook X100W	1.95
204-18W-S	18"	Ass't of ten colors	19.50
204-24W	24"	Mini-Hook X100W	1.95
204-24W-S	24"	Ass't of ten colors	19.50
204-36W	36"	Mini-Hook X100W	1.95
204-36W-S	36"	Ass't of ten colors	19.50
204-48W	48"	.025" square pin plug	2.00
204-48W-S	48"	Ass't of ten colors	20.00
204-60W	60"	.025" square pin plug	2.05
204-60W-S	60"	Ass't of ten colors	20.50
304-6W*	6"	.025" square pin plug	2.30
304-6W-S*	6"	Ass't of ten colors	23.00
304-12W†	12"	.025" square pin plug	2.30
304-12W-S*	12"	Ass't of ten colors	23.00
304-18W*	18"	.025" square pin plug	2.30
304-18W-S*	18"	Ass't of ten colors	23.00
304-24W*	24"	.025" square pin plug	2.30
304-24W-S*	24"	Ass't of ten colors	23.00
304-36W*	36"	.025" square pin plug	2.30
304-36W-S	36"	Ass't of ten colors	23.00
304-48W*	48"	.025" square pin plug	2.40
304-48W-S*	48"	Ass't of ten colors	24.00
304-60W	60"	.025" square pin plug	2.55
304-60W-S*	60"	Ass't of ten colors	25.50

black, brown, red, orange, yellow, green, blue, violet, gray or white, plus any of the 1000 color combinations in the Kilo Color system. Specify color desired when ordering.



E-Z-Hook No.	Lead Length	Second Connector	Net Each
XL MINI-HOOK			
AXL1	32"	.080" pin plug	$ 2.30
AXL1-S	32"	Ass't of ten colors	23.00
BXL1	32"	Standard banana plug	2.30
BXL1-S	32"	Ass't of ten colors	23.00
CXL1	32"	Miniature banana plug	2.65
CXL1-S	32"	Ass't of ten colors	26.50
216XL1	32"	Stacking min. banana plug	2.50
216XL1-S	32"	Ass't of ten colors	25.00
201XL1	32"	Stacking banana plug	2.55
201XL1-S	32"	Ass't of ten colors	25.50
202XL1	32"	.080" stacking pin plug	2.55
202XL1-S	32"	Ass't of ten colors	25.50
XR MINI-HOOK			
AXR	32"	.080" pin plug	$ 2.00
AXR-S	32"	Ass't of ten colors	20.00
BXR	32"	Standard banana plug	2.00
BXR-S	32"	Ass't of ten colors	20.00
CXR	32"	Miniature banana plug	2.25
CXR-S	32"	Ass't of ten colors	22.50
216XR	32"	Stacking min. banana plug	2.30
216XR-S	32"	Ass't of ten colors	23.00
202XR	32"	.080" stacking banana plug	2.30
202XR-S	32"	Ass't of ten colors	23.00
204XR-6	6"	Mini-Hook XR	2.60
204XR-6-S	6"	Ass't of ten colors	26.00
204XR-12	12"	Mini-Hook XR	2.60
204XR-12-S	12"	Ass't of ten colors	26.00
204XR-18	18"	Mini-Hook XR	2.60
204XR-18-S	18"	Ass't of ten colors	26.00
204XR-24	24"	Mini-Hook XR	2.60
204XR-24-S	24"	Ass't of ten colors	26.00
204XR-36	36"	Mini-Hook XR	2.60
204XR-36-S	36"	Ass't of ten colors	26.00
204XR-48	48"	Mini-Hook XR	2.70
204XR-48-S	48"	Ass't of ten colors	27.00
204XR-60	60"	Mini-Hook XR	2.75
204XR-60-S	60"	Ass't of ten colors	27.50
304XR-6*	6"	Mini-Hook XR	2.60
304XR-6-S*	6"	Ass't of ten colors	26.00
304XR-12*	12"	Mini-Hook XR	2.60
304XR-12-S*	12"	Ass't of ten colors	26.00
304XR-18*	18"	Mini-Hook XR	2.60
304XR-18-S*	18"	Ass't of ten colors	26.00
304XR-24*	24"	Mini-Hook XR	2.60
304XR-24-S*	24"	Ass't of ten colors	26.00
304XR-36*	36"	Mini-Hook XR	2.60
304XR-36-S*	36"	Ass't of ten colors	26.00
304XR-48*	48"	Mini-Hook XR	2.70
304XR-48-S*	48"	Ass't of ten colors	27.00
304XR-60*	60"	Mini-Hook XR	2.80
304XR-60-S*	60"	Ass't of ten colors	28.00

†Also available with No. 28 AWG wire with 7 × 36 stranding, to order, change first digit of number to **7**; prices are the same as the 204XR Series. *Lead wire is No. 24 AWG with 19 × 36 silver coated stranding and Teflon insulation.

MACRO-HOOK TEST CONNECTORS

heavy duty Test Hook. Ideal for connection to large leads
o .125"), terminals and lugs. Conductor and hook are
valent in surface area to No. 14 AWG wire. Available
n colors and the Kilo-Color capability. Specify color when
ring.

Hook No. XH Macro-Hook Connector—Net Each $2.50

Hook No. XH-S—Assortment of 1 each of ten colors.
Each $25.00

Hook No. XJ Macro-Hook Connector—Same as No. XH,
pt that an insulation-piercing needle point has been added
e hook. Net Each $3.15

Hook No. XJ-S—Assortment of 1 each of ten colors.
Each $31.50

Hook No. XHL Macro-Hook Connector—Same as No. XH,
pt 2 1/4" longer. Net Each $2.75

Hook No. XHL-S—Assortment of 1 each of ten colors.
Each $27.50

Hook No. XJL Macro-Hook Connector—Same as No. XJ,
pt 2 1/4" longer. Net Each $3.40

Hook No. XJL-S—Assortment of 1 each of ten colors.
Each $34.00

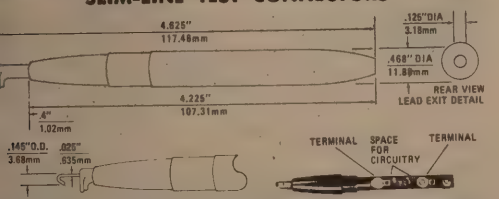
MACRO-HOOK TEST LEADS

leads combining the Macro-Hook connector with various
nectors on the other end. Straight leads are No. 18 AWG
65 × 36 tinned stranding and PVC insulation. Coiled
s are No. 20 AWG with 42 × 36 stranding and urethane
et over PVC insulation.

Z-Hook No.	Lead Length	Second Connector	Net Each
XH MACRO-HOOK			
H	50"	.080" pin plug	$ 3.95
H-S	50"	Ass't of ten colors	39.50
HC	60"*	.080" pin plug	4.85
XH	50"	Stacking banana plug	5.10
XHC	60"*	Stacking banana plug	6.00
XH-12	12"	Macro-Hook XH	5.85
XH-12-S	12"	Ass't of ten colors	58.50
XH-18	18"	Macro-Hook XH	5.85
XH-18-S	18"	Ass't of ten colors	58.50
XH-24	24"	Macro-Hook XH	5.85
XH-24-S	24"	Ass't of ten colors	58.50
XH-36	36"	Macro-Hook XH	6.00
XH-36-S	36"	Ass't of ten colors	60.00
XH-48	48"	Macro-Hook XH	6.15
XH-48-S	48"	Ass't of ten colors	61.50
XH-60	60"	Macro-Hook XH	6.25
XH-60-S	60"	Ass't of ten colors	62.50
XHC-60	60"*	Macro-Hook XH	8.75
XHL MACRO-HOOK			
HL	50"	.080" pin plug	$ 4.25
HL-S	50"	Ass't of ten colors	42.50
HLC	60"*	.080" pin plug	5.10
XHL	50"	Stacking banana plug	5.35
XHLC	60"*	Stacking banana plug	6.25
XHL-12	12"	Macro-Hook XHL	6.05
XHL-12-S	12"	Ass't of ten colors	60.50
XHL-18	18"	Macro-Hook XHL	6.05
XHL-18-S	18"	Ass't of ten colors	60.50
XHL-24	24"	Macro-Hook XHL	6.05
XHL-24-S	24"	Ass't of ten colors	60.50
XHL-36	36"	Macro-Hook XHL	6.20
XHL-36-S	36"	Ass't of ten colors	62.00
XHL-48	48"	Macro-Hook XHL	6.30
XHL-48-S	48"	Ass't of ten colors	63.00
XHL-60	60"	Macro-Hook XHL	6.45
XHL-60-S	60"	Ass't of ten colors	64.50
XHLC-60	60"*	Macro-Hook XHL	9.25

oiled, retractile cable.

SLIM-LINE TEST CONNECTORS

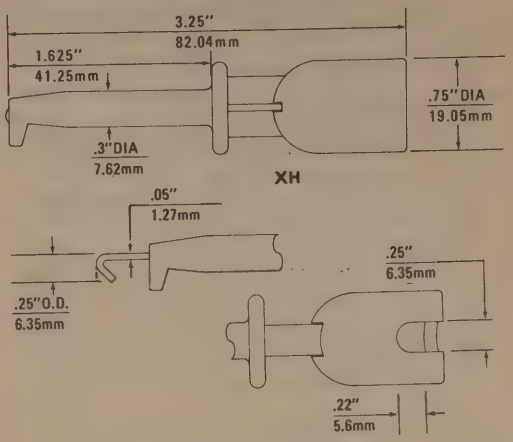


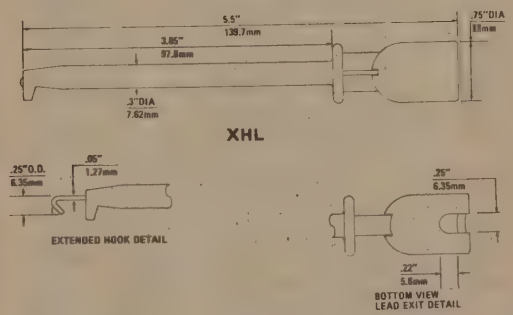
ght weight probe has screw-on cover for ready access to
pair or replace internal circuitry or connections. Designed
r connections to leads up to .0625". Nickel-silver conductor
d hook. Stainless steel spring. Nylon slide. Tenite body and
ver available in black, red, orange, green, blue and silver.
ide is red. Specify color when ordering.

Z-Hook No. 54-1 Test Connector—Net Each $1.75

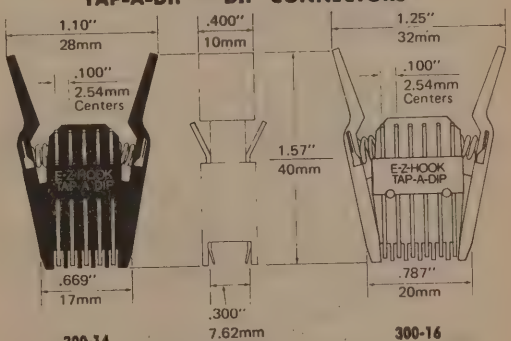
Z-Hook No. 54-2—Same as 54-1, except conductor and hook
e gold-plated. Net Each $1.85

Z-Hook No. 52—Same as 54-1, except that hook and slide
ve been replaced with .080" diam. pin probe. Net Each $1.65





TAP-A-DIP™ DIP CONNECTORS



Connectors for 14- or 16-pin DIPs lock on to the DIP. End contacts of the TAP-A-DIP lock under each of the end leads on the DIP, eliminating possibility of the unit popping off and causing shorts. The width of the TAP-A-DIP is the same as the DIP socket and does not increase during insertion and removal. Ideal for high-density boards. Beryllium copper contacts provide wiping action during insertion—give positive contact. Contacts terminate in .025" square posts at the top of the TAP-A-DIP and accept X100W Mini-Hook either vertically or horizontally, XM Micro-Hook horizontally, or .025" square push-on sockets. Model 300-14 for 14-pin ICs is coded black; Model 300-16 for 16-pin ICs is yellow.

E-Z-Hook No. 300-14 Connector—Net Each $9.60

E-Z-Hook No. 300-16 Connector—Net Each $9.95

PLUGS AND JACKS

Connectors are available in black, brown, red, orange, yellow, green, blue, violet, gray and white. Specify color when ordering.



STANDARD .080" PIN PLUG

Nylon handle, nickel-plated brass body. Solderless. Accepts lead wire up to .144" diam.
E-Z-Hook No. 9201—Net Each $0.50
E-Z-Hook No. 9201-S—Assortment of ten colors. Net Each $5.00



STANDARD BANANA PLUG

Nylon handle, nickel-plated brass body. Nickel-silver springs. Solderless. Accepts lead wire up to .144" diam.
E-Z-Hook No. 9202—Net Each $0.55
E-Z-Hook No. 9202-S—Assortment of ten colors. Net Each $5.50



STACKING BANANA PLUG

Nylon handle, nickel-plated brass body. Nickel-silver springs. Solderless. Accepts lead wire up to .089" diam. Accepts standard banana plug at end.
E-Z-Hook No. 9203—Net Each $0.65
E-Z-Hook No. 9203-S—Assortment of ten colors. Net Each $6.50



STACKING .080" PIN PLUG

Nylon handle, nickel-plated brass body. Solderless. Accepts lead wire up to .089" diam. Accepts .080" pin plug at end.
E-Z-Hook No. 9204—Net Each $0.65
E-Z-Hook No. 9204-S—Assortment of ten colors. Net Each $6.50



STANDARD BANANA JACK

Nylon handle, nickel-plated brass socket. Solder type assembly. Accepts lead wire up to .144" diam. Accepts standard banana plug.
E-Z-Hook No. 9210—Net Each $0.60
E-Z-Hook No. 9210-S—Assortment of ten colors. Net Each $6.00



STANDARD PIN JACK

Nylon handle, silver-plated beryllium copper contact spring. Solder type assembly. Accepts .080" pin plug.
E-Z-Hook No. 9211—Net Each $0.55
E-Z-Hook No. 9211-S—Assortment of ten colors. Net Each $5.50
E-Z-Hook No. 9266—Same with extra-long body. Net Each $0.85
E-Z-Hook No. 9266-S—Assortment of ten colors. Net Each $8.50



MINIATURE BANANA PLUG

Nylon handle, nickel-plated phosphor bronze body. Nickel-plated beryllium copper springs. Solder type assembly. Accepts lead wire up to .100" diam.
E-Z-Hook No. 9213—Net Each $0.55
E-Z-Hook No. 9213-S—Assortment of ten colors. Net Each $5.50



MINIATURE BANANA JACK

Nylon handle, nickel-plated brass socket. Solder type assembly. Accepts miniature banana plug. Accepts lead wire up to .144" diam.
E-Z-Hook No. 9252—Net Each $0.60
E-Z-Hook No. 9252-S—Assortment of ten colors. Net Each $6.00



STACKING .080" PIN PLUG

Plastic handle, nickel-plated brass body, beryllium copper spring. Solderless assembly. Accepts lead wire up to .144" diam. Accepts .080" pin plug.
E-Z-Hook No. 9259—Net Each $0.75
E-Z-Hook No. 9259-S—Assortment of ten colors. Net Each $7.50



STACKING BANANA PLUG

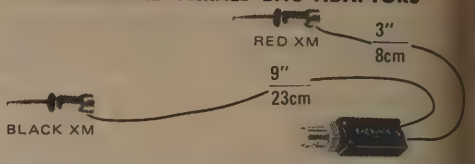
Plastic handle, nickel-plated brass body, nickel-silver spring. Solderless assembly. Accepts lead wire up to .144" diam. Accepts standard banana plug.
E-Z-Hook No. 9260—Net Each $0.85
E-Z-Hook No. 9260-S—Assortment of ten colors. Net Each $8.50



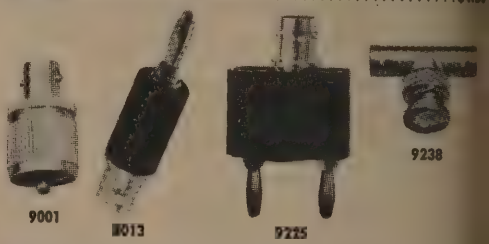
STACKING MINIATURE BANANA PLUG

Plastic handle, nickel-plated phosphor-bronze body, nickel-plated brass socket. Solderless assembly. Accepts lead wire up to .144" diam. Accepts miniature banana plug.
E-Z-Hook No. 9261—Net Each $0.85
E-Z-Hook No. 9261-S—Assortment of ten colors. Net Each $8.50

MALE AND FEMALE BNC ADAPTORS

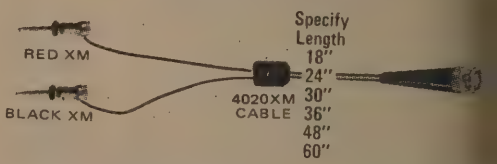


E-Z-Hook No. 1001XM—BNC female to Micro-Hook XM. Net Each $4.65
E-Z-Hook No. 1001—BNC female to Mini-Hook X100W. Net Each $4.50
E-Z-Hook No. 1010XM—BNC male to Micro-Hook XM. Net Each $4.65
E-Z-Hook No. 1010—BNC male to Mini-Hook X100W. Net Each $4.50



E-Z-Hook No. 9001—BNC female to UHF male. Net Ea. $3.40
E-Z-Hook No. 8013—BNC female to standard banana plug. Net Each $3.00
E-Z-Hook No. 9225—BNC female to standard double banana plug. Net Each $3.45
E-Z-Hook No. 9238—"T" adaptor with two BNC females and one BNC male. Net Each $4.85

BNC MALE TEST CABLES



Red connector has 3" lead to Y block; black connector has 9" lead to Y block. Insert length of coaxial cable in inches as last two digits of type number. Standard lengths are 18", 24", 30", 36", 48" and 60".
E-Z-Hook No. 4020XM-xx—Micro-Hook XM and RG174U cable. Net Each $8.25
E-Z-Hook No. 1020-xx—Mini-Hook X100W and RG58C/U cable. Net Each $7.05
E-Z-Hook No. 1029-xx—Standard alligator clips and RG58C/U cable. Net Each $7.10
E-Z-Hook No. 4029M-xx—Miniature alligator clips and RG174/U cable. Net Each $7.70

DOUBLE BANANA PLUGS



Plugs have nylon handle, nickel-silver springs, and nickel-plated brass socket. Solderless assembly. Black.
E-Z-Hook No. DB750—Stacking standard double banana plug. 3/4" spacing. Net Each $1.95
E-Z-Hook No. DB500—Stacking miniature double banana plug. 1/2" spacing. Net Each $1.50

E-Z-NAILCLIP™ TEST TERMINALS



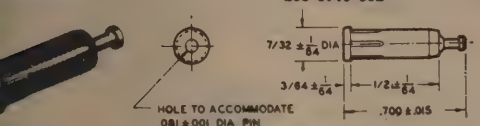
Nailclips for breadboard circuits. Can be driven into wood like a nail using the T-20 tool, or can be pressed into predrilled holes. Smooth, tough hook holds wire ends firmly against the nylon slide. Will not cut, nick or damage lead wires. Use finger tip or nail to press down on slide and expose hook. Insert stripped wire and release pressure. Available in black, brown, red, orange, yellow, green, blue, violet, gray or white. Specify color when ordering.
E-Z-Hook No. 81-1—Net Each $0.30
E-Z-Hook No. T-20 Installation Tool—Net Each $0.35

JOHNSON BANANA JACKS AND PLUGS, PATCHCORD STACKING PLUGS

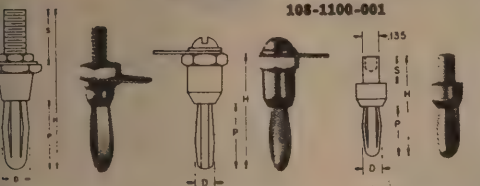


108-0900-001

108-0740-001



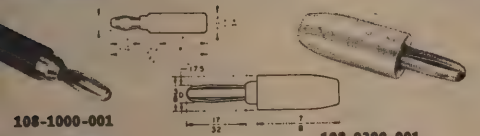
108-1100-001



108-0750-001, 108-0750-002

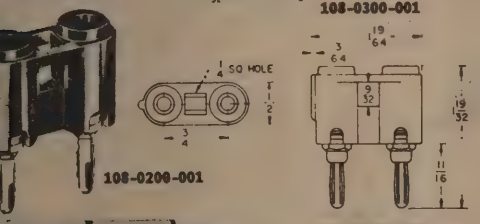
108-0753-001

108-0754-001

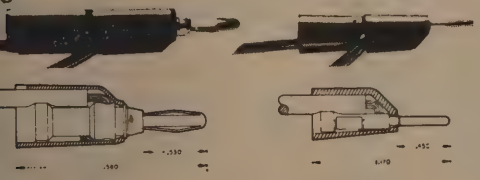


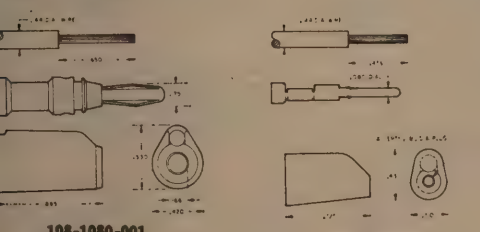
108-1000-001

108-0300-001



108-0200-001





108-1080-001

105-1200-001



Engineering Kit

BANANA JACKS

Completely insulated molded body with cadmium-plated insert. Accommodates banana plugs of nominal .175″ dia. **Voltage Breakdown:** 10,000 VDC. Capacity to 1/16″ panel, 2.4 pF nom. Mounts in 2 1/64″ diameter circular, "D" or double flat hole (1/4″ across flats). Single nut furnished for mounting, no other mounting hardware needed. See Color Chart* on adjacent page.

Johnson No. 108-0900-001—Net per 100.....**$30.00**

STANDARD BANANA JACKS

High quality, machined brass banana jack. Nickel-plated, furnished complete with solder terminal and nut.

Johnson No.	Dimensions, Inches				Hole Dia.	Thread	Net per C
	F	D	S	H			
108-0740-001	3/8	1/4	17/32	5/8	.166″	1/4″-28	$48.00

RIB-LOC® PRESS-IN BANANA JACKS

Johnson RIB-LOC design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by pressing into proper size chassis hole. Accept .120″ tip plug in recessed contact. Silver-plated brass contact. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Peak Withstanding Voltage:** 5000. Capacity to 1/8″ panel: 1.4 pF nom. Available in six colors, see Color Chart* on adjacent page.

Johnson No. 108-1100-001—Net per 100.....**$30.00**

STANDARD BANANA PLUGS

Accurately machined brass studs extend the full length of plugs providing extra strength. Nickel-silver springs are highly resistant to corrosion. Bodies and hardware .0001″ nickel-plated. All banana plugs are available with beryllium copper springs and nickel, cadmium or silver plating. Wide selection of miniature solder-type plugs is also available on special order. Quantities in special platings or plugs should be sufficiently large for economical production runs. Solder terminal and nut or screw furnished.

Johnson No.	Dimensions, Inches				Thread	Net per C
	S	P	D	H		
108-0750-001	3/4	17/32	.175	1 1/8	6-32	$58.00
108-0750-002	3/4	17/32	.175	1 1/2	6-32	58.00
108-0753-001	.....	17/32	.175	1 5/16	6-32	55.00

Similar to standard types listed above, except designed for riveting. Springs are beryllium copper with cadmium plating.

108-0754-001	7/32	13/32	.155	1 3/16	.....	$45.00

MINIATURE BANANA PLUGS

Extremely small insulated banana plugs with precision machined phosphor bronze body, nickel-plated. One-piece springs are beryllium copper, nickel-plated, .120″ dia. Polyamide sleeve. **Current Rating:** 5 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1000-001—Net per 100.....**$93.00**

SOLDERLESS BANANA PLUGS

Compact, high voltage insulated plug for a wide variety of applications. Designed for fast, solderless connection of up to 16 gauge standard wire. Body and pin are made of one piece nickel-plated brass with high grade nickel-silver springs. Molded sleeve. **Current Rating:** 15 amps. See Color Chart* on adjacent page.

Johnson No. 108-0300-001—Net per 100.....**$58.00**

DUAL BANANA PLUG

Extremely versatile plug for solderless connection. Molded body incorporates polarity indication and strain relief hole for wire leads. Nickel-plated body and high quality nickel-silver springs. Accurately machined brass studs extend full length of pins for extra strength. **Voltage Breakdown:** 10,000 VDC. **Current Rating:** 15 amps. Capacity plug to plug, 1.3 pF. See Color Chart* on adjacent page.

Johnson No. 108-0200-001—Solderless. Net per 100...**$245.00**

PATCHCORD STACKING PLUGS

Developed for custom patchboard assembly and replacement of damaged molded patchboard plugs. Assembly of patchcords with any length and color. Used with standard 0.144″ diameter rubber or extra-flexible polyvinyl insulated wire. Plug body precision machined brass with 0.0002″ nickel plating. Polyamide housing available in six colors. Operating temperature range, −55° C to +105° C.

STACKING STANDARD BANANA PLUGS

Current rating, 15 amps. Assembly tool punch and fixture is recommended. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 108-1080-001—Net per 100.....**$83.00**

STACKING .080″ STANDARD TIP PLUGS

Current rating, 10 amps. Available in 6 colors, see Color Chart* on adjacent page.

Johnson No. 105-1200-001—Net per 100.....**$113.00**

ASSEMBLY PROCEDURE

First feed stripped wire through cross hole of metal contact, then insert contact and wire into housing. Finally place into fixture, place tip of tool into rear of contact and snap contact into place.

ENGINEERING KITS

Contain material to assemble 30 patchcords in six colors.

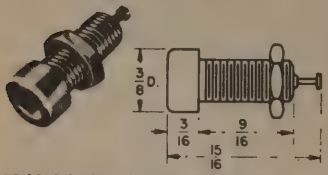
Johnson Standard Banana Patchcord Stacking Plug Engineering Kit No. 108-1299-001—Contains 10 each of white, red, black, green, yellow and blue standard banana plugs; one assembly tool and one assembly fixture. Net Each.....**$32.60**

Johnson No. .080″ Tip Patchcord Stacking Plug Engineering Kit No. 105-1299-001—Contains 10 each of white, red, black, green, yellow and blue color .080″ tip plugs; one assembly tool and one assembly fixture. Net Each.....**$38.13**

QUANTITY PRICES AVAILABLE ON REQUEST

TIP JACKS

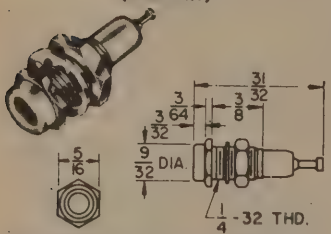
DELUXE TIP JACK



Molded body with recessed closed entry design contact. Silver-plated beryllium copper contact spring; brass solder terminal is hot tin dipped. **Current Rating:** 10 amps. **Voltage Breakdown:** 11,000 VDC. Capacity to ⅛" panel: 2 pF. ¼"-32 nut furnished. U.S. Patent No. 2,704,357. See Color Chart*.

Johnson No. 105-0600-001
Net per 100.....**$55.00**

METAL-CLAD TIP JACKS (MILITARY)

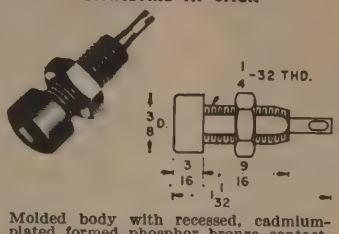


High reliability tip jack for military use or industrial applications. High quality materials withstand severe environmental temperature, vibration and salt spray conditions. Complies with MS-16108, Rev. F of MIL-STD-242A. Closed entry contact design prohibits entry of tip plug .085" or larger, preventing accidental contact damage by careless probe insertion. Heavy nickel-plated brass jacket. Gold-plated beryllium copper contact spring exceeds min. insertion/withdrawal cycle requirements of MS-16108. **Current Rating:** 5 amps. **Voltage Breakdown:** 8,000 VDC. Capacity to ¼" panel: 3.8 pF. ¼"-32 nut and lock washer furnished. Terminal style A, terminal style C per MS-16108 available on special order. Brass solder terminal is gold plated.

Johnson No. 105-0200-200
Net per 100.....**$145.00**

MIL Number	E. F. Johnson Number	Color
MS16108-1A	**105-0201-200**	White
MS16108-2A	**105-0202-200**	Red
MS16108-3A	**105-0203-200**	Black
MS16108-4A	**105-0208-200**	Brown
MS16108-5A	**105-0204-200**	Green
MS16108-6A	**105-0206-200**	Orange
MS16108-7A	**105-0210-200**	Blue
MS16108-8A	**105-0207-200**	Yellow
MS16108-9A	**105-0213-200**	Gray
MS16108-10A	**105-0212-200**	Violet

STANDARD TIP JACK

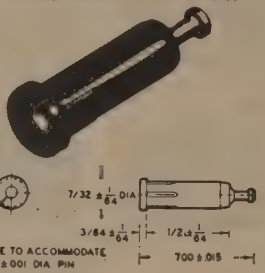


Molded body with recessed, cadmium-plated formed phosphor bronze contact. **Current Rating:** 10 amps. **Voltage Breakdown:** 9000 VDC. Capacity to ⅛" panels: 2.0 pF. ¼"-32 nut furnished. See Color Chart* below.

Johnson No. 105-0800-001
Net per 100.....**$30.00**

Johnson No. 105-1000-001—Same, except for .125" diam. tip plug.
Net per 100.....**$38.00**

RIB-LOC® PRESS-IN TIP JACKS

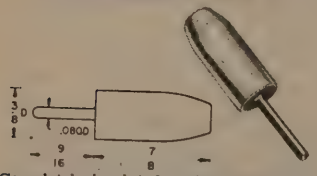


Johnson Rib-Loc design permits substantial production line savings as no mounting hardware to handle and assemble. Installation by only pressing into proper size chassis hole. Accept .080" tip plug in recessed, closed-entry type contact that rejects plugs .085" or larger to prevent accidental contact damage. Silver-plated beryllium copper contact spring. Brass solder terminal silver-plated and iridited for good solderability. Insulating body molded of low-loss polyamide. **Current Rating:** 10 amps. **Voltage Breakdown:** 5,000 VDC. Capacity to ⅛" panel: 1.4 pF nominal. See Color Chart* below.

Johnson No. 105-1040-001
Net per 100.....**$45.00**

TIP PLUGS

SOLDERLESS TIP PLUG

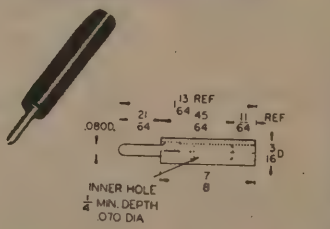


Completely insulated, molded sleeve. Recessed metal head prevents exposure of metal surfaces when engaged in any standard tip jack. All metal parts are nickel-plated brass. Designed for solderless connection of up to 16 gauge stranded wire. Fits all standard tip jacks. **Current Rating:** 10 amps. See Color Chart*.

Johnson No. 105-0300-001
Net per 100.....**$45.00**

Johnson No. 105-0360-001—Same, except tip .125" diam. Net per 100....**$40.00**

SUB-MINIATURE TIP PLUG



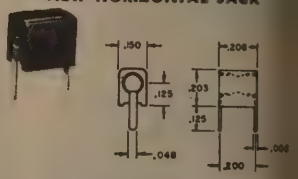
For use with miniature jack, .080" dia. tip. Nickel-plated machined brass body, solder type lead connection. See Color Chart*.

Johnson No. 105-0770-001
Net per 100.....**$40.00**

PRINTED CIRCUIT JACKS

Sub-miniature tip jacks are rated at amps max. current capacity. Operating voltage is 1500 volts rms at sea level and 350 volts rms at 50,000 feet. Contact resistance is less than 2 milliohms; capacitance between 2 adjacent jacks is less than one pF at 1 MHz. Body is of tough, low-loss polyamide per MIL-M-20693A; able to stand hard usage. Jacks equipped with beryllium copper contacts; contacts and terminals are silver-plated.

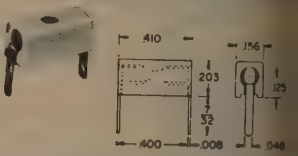
NEW HORIZONTAL JACK



New design accepts 0.080" dia. tip plug in either end. Silver-plated and iridited beryllium-copper formed contact. Two terminals. Approx. one-half size of standard jack. See Color Chart* below.

Johnson No. 105-1100-001
Net per 100.....**$23.00**

HORIZONTAL JACK

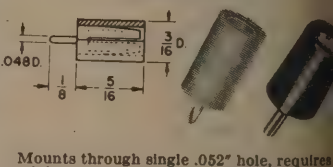


Unique design accepts .080" dia. plug in either end, or from top or bottom. Silver-plated beryllium copper formed contact. Two terminals. See Color Chart* below. U.S. Patent No. 3,208,027. Without cross hole available on special order.

Johnson No. 105-0750-001
Net per 100.....**$21.00**

Johnson No. 105-0750-150—Same, except gold plated contact. Net per 100. **$30.00**

VERTICAL JACK



Mounts through single .052" hole, requires minimum mounting area. Silver-plated, machined beryllium copper contact. See Color Chart* below.

Johnson No. 105-0850-001
Net per 100.....**$38.00**

*COLOR CHART

Connectors, unless otherwise specified are available in 6 molded colors to Federal Standard 595. Other colors listed are available as specials. E. F. Johnson No. for color desired is determined by adding color numbers on chart below to **6th** and **7th** digits of E. F. Johnson No. listed for series. To order 105-1040-001 in violet color, add **12** to **6th** and **7th** digits of series number and order 105-1052-001.

Color	No.	Color	No.
White†	**01**	Yellow†	**07**
Red†	**02**	Brown	**08**
Black†	**03**	Blue†	**10**
Green†	**04**	Violet	**12**
Orange	**06**	Gray	**13**

†Indicates colors available from stock. Other colors listed are available on special order for some items.

JOHNSON Plugs and Jacks

INSULATED, THREADED BANANA JACKS

OR MINIATURE BANANA PLUGS



s, cadmium-plated, formed contact. ent Rating: 10 amps. Voltage Break-n: 8,000 VDC.
nson No. 108-2100-601—
per 100.....$38.00
nson No. 108-2100-621—Same, except hined contact. Net per 100..$40.00

OR STANDARD BANANA PLUGS



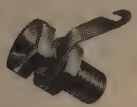
hined contact. Current Rating: 15 s. Voltage Breakdown: 10,000 VDC.
nson No. 108-2300-621—
per 100.....$33.00



cost phenolic jack with hex head. nts in 5/16" hole in panels up to 3/8" k. Comes with nickel-plated hex nut, r shoulder and flat washers, and tin-ed slotted lug. Current Rating: 5 amps. tage Breakdown: 2,000 VDC.
nson No. 108-0745-101—Red.
per 100.....$55.00
nson No. 108-0745-102—Black.
per 100.....$55.00

NINSULATED BANANA JACKS

THREADED BODY TYPE



, nickel-plated brass body with tapered ry. Mounts in 1/4" hole in panels up to thick. Comes with hex nickel-plated and tin-plated lug. Current Rating: amps.
nson No. 108-0740-102—
per 100.....$45.00

RIVET TYPE



kel-plated brass, rivet type, panel unt banana jack for panels 1/16" to 1/8" k. Current Rating: 15 amps.
nson No. 108-2300-501—
t per 100.....$38.00

INSULATED TIP PROBE



derless type with knurled nut to hold e. Sharp, 60° point. Brass, nickel-plated dy. Nylon handle available white, red, ck, green, yellow and blue. Current ing, 10 amps.
nson No. 105-1700-101—
t per 100.....$70.00

RIB-LOC® INSULATED BANANA JACKS

FOR MINIATURE BANANA PLUGS



RIB-LOC design permits substantial production line savings as no mounting hardware to handle. Installation by pressing into proper size chassis hole. Accepts .120" miniature banana plug. Formed, cadmium-plated brass contact. Current Rating: 10 amps. Voltage Breakdown: 5,000 VDC.
Johnson No. 108-2100-801—
Net per 100.....$38.00

FOR STANDARD BANANA PLUGS



Current Rating: 15 amps. Voltage Breakdown: 12,000 VDC. Formed contact.
Johnson No. 108-2300-801—
Net per 100.....$23.00
Johnson No. 108-2300-821—Same, except machined contact. Net per 100..$26.00

TIP JACKS



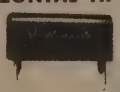
Threaded, insulated tip jacks with closed-entry, beryllium copper, tin-plated contacts. Nylon body is double flatted. Current Rating: 10 amps. Voltage Breakdown: 11,000 VDC. Turret-type wiring terminal.
Johnson No. 105-2200-601—
Net per 100.....$50.00
Johnson No. 105-2200-602—Same, except slotted wiring terminal.
Net per 100.....$70.00

JUMBO UNINSULATED BANANA PLUG



Fits .300" diam. jacks. Hex, nickel-plated brass bodies with 6-leaved nickel silver spring. Supplied with nickel-plated screw and tin-plated solderless crimp spade lug. Current Rating: 40 amps.
Johnson No. 108-0771-102—
Net per 100.....$158.00

HORIZONTAL TIP JACK



Fits standard .080" diam. tip plug. The beryllium-copper contact has either gold or silver plating, and body is self-extinguishing nylon 6/6 per MIL-M-20693A. Available in ten standard colors.
Johnson No. 105-2200-101—
With silver plating. Net/100...$26.00
Johnson No. 105-2200-105—
With gold plating. Net/100....$48.00

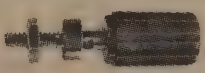
EUROPEAN STYLE BINDING POST



Accepts standard banana plug with no metal exposed. Mounting hardware furnished. Mounts in D or double D hole. Current Rating: 15 amps. Voltage Breakdown: 8,000 VDC.
Johnson No. 111-0100-521—
Net per 100.....$158.00

ALL-METAL BINDING POSTS

INSULATED THUMB NUT TYPE



Six-way binding post with insulated thumb nut. Cross hole accepts wire up to 12 gauge. The jack is .359" deep and accepts standard .175" banana plugs. Material is nickel-plated brass. Current Rating: 15 amps. Available in red, black and green.
Johnson No. 111-0700-001—
Net per 100.....$68.00

KNURLED THUMB NUT TYPE



Six-way post of nickel-plated brass. Jack accepts .175" plug and the hole goes completely through the jack body. Cross hole accepts wire up to 10 gauge. Current Rating: 15 amps.
Johnson No. 111-2223-001—
Net per 100.....$68.00

DUAL TIP PLUG



Stackable tip plug with strain-relieved solderless lead connection. Machined brass, nickel-plated contacts. Tips are .080" diam. spaced .750". Current Rating: 10 amps. Voltage Breakdown: 10,000 VDC.
Johnson No. 105-3300-001—
Net per 100.....$238.00

STANDARD UNINSULATED BANANA PLUG



Hex, nickel-plated brass bodies with a 4-leaf beryllium copper nickel-plated spring. Supplied with nickel-plated screw and tin-plated solder lug. Current Rating: 15 amps.
Johnson No. 108-0753-102—
Net per 100.....$73.00

INSULATED BANANA PLUGS



Brass, nickel-plated body and nickel-silver springs. Handle, nylon, self-extinguishing. Available in white, red, black, green, yellow and blue.

Johnson Number	Description	Net per 100
108-1760-101	Solder type	$75.00
108-1740-101	Solderless type	83.00
108-1700-101	Side set screw	80.00
108-1720-101	Solder type	80.00
108-1720-103	Solderless type	80.00

JOHNSON

JCM MINIATURE COAXIAL CONNECTOR

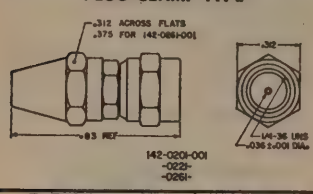
COAXIAL CONNECTORS

Semi-precision, 3 mm miniature JCM connector gives repeatable electric performance from DC to 3 GHz. At a fraction of the price of MIL-C-39012B SMA connectors, the JCM offers full mating compatibility with SMA types. Bright gold finish is more dense and twice as hard as ordinary gold. Non-galling finish is 40% more resistant to wear and abrasion. Plating is 98.5 to 99.5% pure gold with a Knoop hardness of 120–140. Cable clamp JCM plugs a jacks consist of 5 or fewer parts easily assembled. Only one set stripping dimensions is required for all cables from .070" to .22 overall diameter. Beryllium copper contacts assure superior qual ties and lowest contact resistance.

ELECTRICAL, TYPICAL

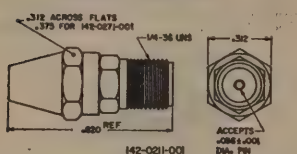
Impedance: 50 ohms. **Frequency:** DC to 3 GHz. **Voltage Rating:** 500 V rms at sea level. **Dielectric Withstanding Voltage:** 1000 V rms at sea level. **VSWR:** 1.15:1 to 3 GHz. **Contact Resistance:** Center, 2.5 milliohms; body, 1 milliohm; braid to body, 0.5 m ohm. **Insulation Resistance:** 5000 megohms.

PLUG-CLAMP TYPE



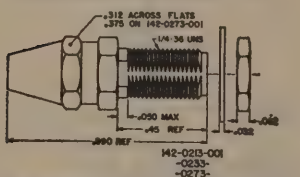
E. F. Johnson No.	Net Each
142-0201-001	$2.14
142-0221-001	2.14
142-0261-001	2.14

JACK-CLAMP TYPE



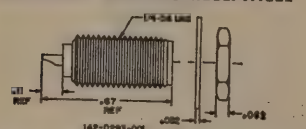
E. F. Johnson No.	Net Each
142-0211-001	$1.78
142-0231-001	1.78
142-0271-001	1.78

BULKHEAD JACK-CLAMP TYPE



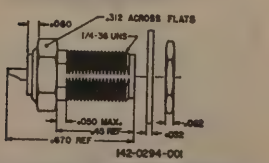
E. F. Johnson No.	Net Each
142-0213-001	$2.28
142-0233-001	2.28
142-0273-001	2.28

BULKHEAD FEEDTHRU RECEPTACLE



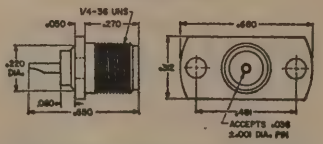
E. F. Johnson No.	Net Each
142-0293-001	$2.12

BULKHEAD RECEPTACLE REAR MOUNT



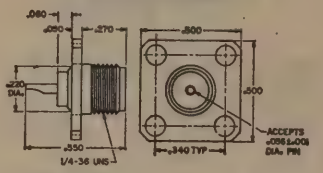
E. F. Johnson No.	Net Each
142-0294-001	$1.92

2-HOLE PANEL RECEPTACLE, FRONT MOUNT



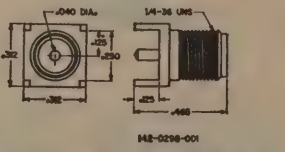
E. F. Johnson No.	Net Each
142-0296-001	$2.36

4-HOLE RECEPTACLE, FRONT MOUNT



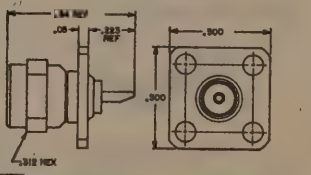
E. F. Johnson No.	Net Each
142-0297-001	$2.30

PC RECEPTACLE



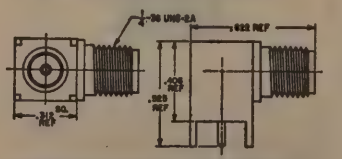
E. F. Johnson No.	Net Each
142-0298-001	$1.76

4-HOLE PANEL PLUG, FRONT MOUNT



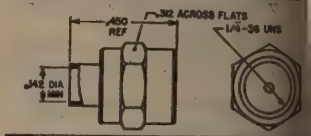
E. F. Johnson No.	Net Each
142-0287-001	$2.60

RIGHT-ANGLE PC RECEPTACLE



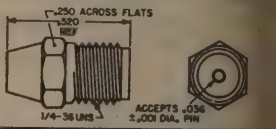
E. F. Johnson No.	Net Each
142-0299-001	$3.12

PLUG/CABLE, FOR .141" CABLE



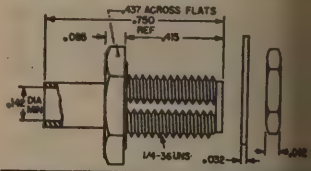
E. F. Johnson No.	Net Each
142-0281-001	$0.72

JACK/CABLE, FOR .141" CABLE



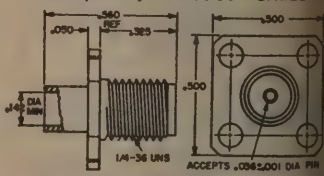
E. F. Johnson No.	Net Each
142-0283-001	$1.44

BULKHEAD FEED THRU WITH GASKET JACK/CABLE, FOR .141" CABLE



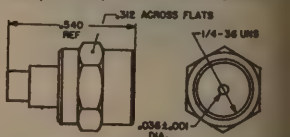
E. F. Johnson No.	Net Each
142-0285-001	$2.88

4-HOLE FLANGE MOUNT, CABLE/JACK, FOR .141" CABLE



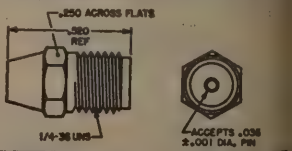
E. F. Johnson No.	Net Each
142-0286-001	$2.24

PLUG/CABLE, FOR .085" CABLE



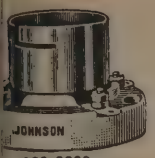
E. F. Johnson No.	Net Each
142-0282-001	$1.16

JACK/CABLE, FOR .085" CABLE

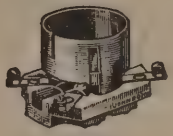


E. F. Johnson No.	Net Each
142-0284-001	$1.34

JOHNSON Special Sockets



123-0209


123-0206

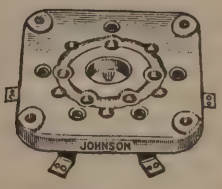

122-0101


124-0107-001


124-0110-001


124-0115-001


122-0105



122-0275



122-0224


124-0111-001

ndard (designated **-001**), a commercial grade socket for general ilrements; porcelain base; phosphor bronze contacts, cadmium ed. **Industrial** (designated **-100**), glazed steatite base, DC200 ted; phosphor bronze or beryllium copper contacts; fungus- stant cushion washers under contacts. **Military** (designated 0) meets military requirements; glazed L423 steatite base, 200 treated; phosphor bronze contacts; hot tin dipped ter- als, brass bayonet shells; fungus-resistant cushion washers er contacts.

BAYONET SOCKETS

AVY DUTY MEDIUM 4-PIN TYPE 123-0209. For medium ed tubes, such as the 866A or 811A with EIA Base No. A4-10. ra heavy side wiping contacts and extended creepage paths st high voltage breakdown. Four mounting holes.

DIUM 4-PIN TYPE 123-0210. Economical socket for bayonet es (EIA Base No. A4-10). Two mounting holes.

MBO 4-PIN TYPE 123-0211. A popular "50-watt" socket for es such as 872A, 211 and others with EIA Base No. A4-29. uble wiping filament contacts for extra heavy current; terminals screw or solder connections; two mounting holes.

PER JUMBO 4-PIN TYPE 123-0206. A heavy duty industrial e for high voltage or heavy current; for tubes such as 8008, 22, FG104, GL146, etc., with EIA Base No. A4-18; special high rent, insertion type spring contacts; two recessed mounting es; three heavy retaining springs grip tube; screw terminals.

Johnson Type	Dia., In.	Ht., In.	Mtg. Ctr., In.	Net Each Standard -001	Net Each Indus- trial -100	Net Each Military -200
23-0209	2 11/16	1 3/8	2 1/4	$11.50	$17.50	.....
23-0210	2 1/2	1 3/8	2 1/4	9.08	.....	.....
23-0211	3 3/8	2 1/2	2 11/16	10.92	25.58	.....
23-0206	*	2 1/2	2 1/4	.....	25.22	$26.48

val 2½" x 3½".

UHF TUBE SOCKETS

r UHF tubes such as RCA 8072, 8121, 8122 and 8462 with A Base No. E11-81. For use with CRT tubes 1EP11 and 1EP1 th base No. E11-22. With low-loss, glass-filled silicone base, d beryllium copper contacts, silver-plated. Elevation pads for n cooling. Raised boss for aligning tube and socket. Socket ntacts grip tube pins at base of tube. Tabs provide easy means grounding cathode contacts. Three mounting holes; numbered rminals. Continuous heat resistance to 500° F.

hnson No. 124-0311-100—Industrial. Net Each..... **$5.64**

WAFER AND SEPTAR SOCKETS

HF SEPTAR SOCKETS. TYPE 122-0101 is for medium molded re base such as the 826, 832, 4D32, PL6549, PL-177A and Y65 ith EIA Base No. E7-2. Industrial type has 5 and military type s 7 retaining springs; with ventilated shield. Two holes for ounting of bus bar neutralizing leads. **TYPE 122-0105** is for edium button tubes such as 5894, 6524 and 6252 with EIA Base o. E7-20. Recesses in base prevent turning. Aluminum shell bmounts tube for max. shielding. ⅜" holes provide ventilation.

UPER JUMBO 4-PIN TYPE 122-0244. A heavy duty steatite sulated 4-pin wafer for tubes such as 8008 and many rectifier and thyratron types with EIA Base No. A4-15, 16 and 18. Long, parallel contacts designed to carry high currents.

GIANT 5-PIN AND 7-PIN SOCKETS. Type 122-0237 is for giant 7-pin base tubes with EIA Base No. A7-17 such as 4E-27, HK257, and 813. Contacts have maximum surface area against prongs. ¾" ventilating hole in base for tube seal cooling. **Type 122-0275** is for giant 5-pin base tubes. EIA Base No. A5-19, such as 4-125A, 4-250A and RK-48. Tubes seal ventilated by six holes.

STANDARD WAFER SOCKETS TYPE 122-0224 & -0228. Steatite sockets for receiving and low power transmitting tubes. Countersunk rivets and bossed mtg. holes permit sub-panel mounting. Brass contacts.

Johnson Type	Sq. or Dia., In.	Ht., In.	Mtg. Ctr., In.	Net Each Standard -001	Net Each Indus- trial -100	Net Each Military -200
122-0101	2¾	1 9/16	2 5/16	.....	.....	$22.94
122-0105	2¼	1 3/16	1 13/16	.....	$13.70	.....
122-0224*	†	¼	1½	$ 6.32	.....	.....
122-0228*	†	3/16	1½	7.00	.....	.....
122-0244	2⅝	1 1/16	1⅞	11.90	.....	20.68
122-0275	2⅞	¼	2¼	10.60	19.20	.....

*Last digit indicates number of pins; 122-0224 has four pins. †1 1/16" x 2 5/16".

HIGH POWER TUBE SOCKETS

For use with high power transmitting tubes; available with or without low inductance screen grid by-pass capacitors. Two section base of Kel-F† plastic: Bottom holds contacts, top insulates and protects. Contacts are heat treated, silver-plated beryllium copper. Annealed solder tabs.

Johnson No. 124-0107-001—Light basic socket with silver-plated brass mounting saddle. Cathode terminals insulated. Four elongated holes for mounting diameters from 2 27/64" to 2 33/64". Mounts under chassis in 1 21/32" diameter hole. Net Each..... **$26.12**

Johnson No. 124-0110-001—With mount ring and 2700 pF by-pass capacitor. Mounts thru 2¼" hole with three clips for 6-32 screws. Cathode contacts not grounded. Net Each..... **$45.12**

Johnson No. 124-0112-001—Same as 124-0110-001; cathode terminals grounded. Net Each..... **$40.78**

Johnson No. 124-0114-001—Light basic socket, less metal mounting saddle. Grounded cathode terminals Nos. 2, 4, 6 and 8. Mounts below chassis in 1 21/32" diameter. Net Each..... **$26.70**

Johnson No. 124-0111-001—Heat resistant, steatite chimney for above sockets; tapered design, 1 3/16" high. Net Each..... **$1.66**

Johnson No. 124-0113-001—Circular 1450 pF silvered-mica screen grid by-pass capacitor mounted in a low loss silicone sealed silver-plated drawn brass housing. Capacitor may be replaced by removing four screws. Used with 124-0107, -0108, -0109, -0114 and 124-0311-100. Net Each..... **$11.90**

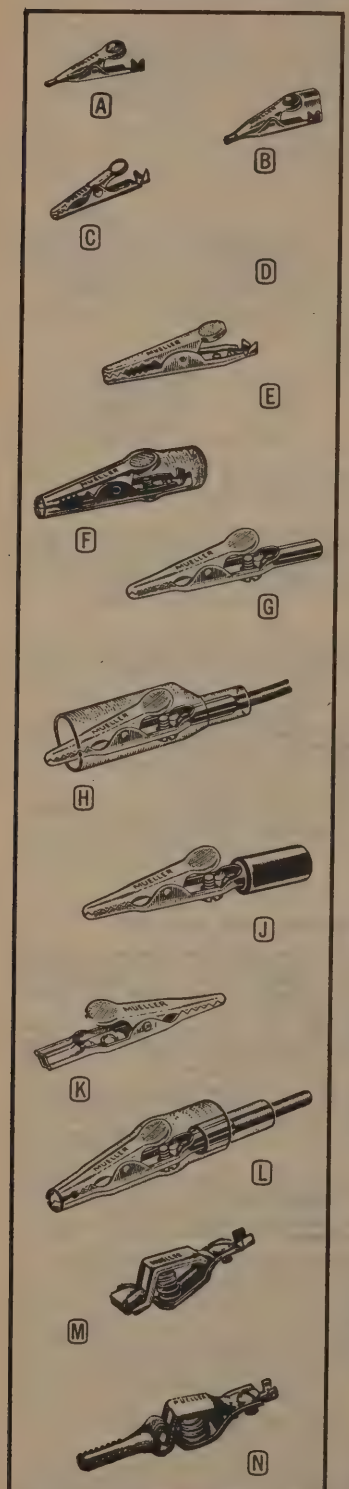
Johnson No. 124-0115-001—Basic socket with mounting ring and 1100 pF screen by-pass capacitor. Withstands 1500 VDC. Cathode terminals insulated. Recessed silver-plated beryllium copper screen grid contacts. Mounts above chassis in 2¼" diameter hole with 3 clips drilled for 6-32 screws. Provision for mounting socket skirt to 1⅝" coaxial type line. Net Each..... **$44.54**

Johnson No. 124-0116-001—Same as 124-0115-001; cathode terminals are grounded. **SPECIAL ORDER ONLY.**

†Trademark of M. W. Kellogg Co.

QUANTITY PRICES AVAILABLE ON REQUEST

Mueller Test and Battery Clips



34 SERIES MICRO-GATOR CLIPS

Smallest insulated clip ever made. Microscopic tip can be used where no other clip will do. Printed circuits, tight spots and crowded, tiny terminals. Same speed, free-handed ease and convenience as other Mueller clips. When used with separate, skin-tight insulator, the tip is no bigger than the head of a pin; yet, has ample thumb grip. Sure bite to stand up straight on the smallest terminals; 1/2" jaw spread; length, 1 1/2". Solder connection, separate insulator with "lip-action" tip. Locked ear construction for strong hinge. For No. 20 wire or smaller.

Mueller Number	Fig.	Description	Net Each, Lots of 1-9	10	100
34	A	Cadmium-plated steel Micro-gator	$0.15	$0.115	$0.092
34-C	A	Solid copper Micro-gator	.19	.141	.113
36	B	Vinyl insulator*	.10	.077	.061

MINI-GATOR CLIPS

The original miniature alligator clip, improve rivet hinge construction, full-meshing jaw teeth. Ideal for testing miniaturized and subminiaturized equipment. Strong spring gives bite through protective coatings. Easy solder connection. Takes No. 20 or smaller wire. Jaws open 3/16". Length, 1 1/2". Nose 1 1/64" O.D., including insulator, which has "lip-action" tip.

Mueller Number	Fig.	Description	Net Each, Lots of 1-9	10	100
30	C	Cadmium-plated steel Mini-gator	$0.17	$0.13	$0.104
30-C†	C	Solid copper Mini-gator	.21	.156	.124
32	D	Vinyl insulator*	.10	.077	.061

70 SERIES ALLIGATOR CLIPS

Streamlined, simplified design for low cost efficiency. Cord strain relief ears prevent breakage of lead wire. Makes screw connection faster; soldering easier. Improved meshing teeth; knurled thumb grip and trim shape are ideal for test work in close quarters. Length 1 1/16". Jaws open 1/4". Separate insulator has "lip-action" tip so jaws stay covered whether open or closed.

Mueller Number	Fig.	Term. Type	Body Metal	Net Each, Lots of 1-9	10	100
70	E	Solder	Cadmium-plated steel	$0.19	$0.142	$0.114
70-S	E	Screw	Cadmium-plated steel	.22	.167	.134
70-CS†	E	Screw	Solid copper	.34	.256	.205
72	F	.....	Vinyl insulator*	.11	.083	.067

60 SERIES ALLIGATOR CLIPS

New slim-jaw design allows nose of clip to make friction-fit in binding post or banana jack. Full meshing teeth grip even finest wires. Barrel connection for banana plug or wire. Small lip for soldering; or, wire may be staked in barrel using staking tool. Strong hinge prevents jaw offset; spring gives hard bite. Available with screw connection, insulated barrel or fully insulated. Jaws open 1/4". Length 2" on uninsulated models; 2 1/16", models with insulated barrel. 63 and 63-C: Length, 2 1/16"; jaws open 1/4"; nose, 13/64" O.D.

UNINSULATED 60 SERIES

Mueller Number	Fig.	Term. Type	Body Metal	Net Each, Lots of 1-9	10	100
60	G	Solder	Cadmium-plated steel	$0.23	$0.176	$0.141
60-S	G	Screw	Cadmium-plated steel	.27	.201	.161
60-NS§	G	Screw	Cadmium-plated steel	.48	.362	.29
60-CS†	G	Screw	Solid copper	.39	.292	.234
60PR-2	K	‡	Cadmium-plated steel	.35	.263	.21
62	H	.....	Vinyl insulator*	.11	.083	.067

INSULATED 60 SERIES

60-HS	J	Screw	Cadmium-plated steel; insul. barrel	$0.39	$0.29	$0.232
60-CHS†	J	Screw	Solid copper; insulated barrel	.50	.376	.30
63	L	Screw	Cadmium-plated steel; fully insul.	.55	.41	.328
63-C	L	Screw	Solid copper; fully insulated	.61	.458	.366

PEE-WEE CLIPS (FIG. M)

Very small clip for general test purposes. Jaw teeth mesh. Interlocking necks prevent jaw offset. Jaws open 1/4". Length, 1 1/2". Screw connection. No. 45-C is completely non-ferrous; has phosphor bronze spring and brass screw. Jaws open 1/4".

Mueller Number	Description	Net Each, Lots of 1-9	10	100
45	Cadmium-plated steel Pee-Wee clip	$0.23	$0.169	$0.135
45-C†	Solid copper Pee-Wee clip	.38	.287	.23
47	Vinyl insulator*	.14	.106	.085

CROCODILE CLIPS (FIG. N)

Designed for test work in close quarters. Nesting teeth give solid contact along entire length of jaw. Jaws open 1/4". Length, 2 1/16". Screw terminal connection. No. 85-C is completely non-ferrous version with brass screw and phosphor-bronze spring. No. 85-T is equipped with standard phone tip on one jaw; otherwise is identical to No. 85; permits use as prod or for clip connections, etc.; length, 2 5/8".

Mueller Number	Description	Net Each, Lots of 1-9	10	100
85	Cadmium-plated steel crocodile clip	$0.26	$0.196	$0.157
85-C†	Solid copper, non-ferrous crocodile clip	.49	.365	.292
85-T	"Tip-clip" cadmium-plated steel crocodile	.69	.516	.412
87	Vinyl insulator*	.14	.106	.085

*Specify red or black; also available in yellow, blue, white or green, priced 10% higher. †Fed. Spec. W-C-440b, Aug. 11, 1970. ‡Crimped barrel for tight friction-fit on standard phone tip or test prod tip. §Like No. 60-S, except with beryllium copper needle in one jaw for making electrical contact through insulation of wire.

Mueller Test and Battery Clips

GENERAL PURPOSE TEST CLIPS

8-B: Small, general purpose clip used as standard equipment on ignition test sets, oplating racks, etc. Length, 2". Jaws open ½".
8-C: Same as above, but solid copper; suitable for testing highly rated auto gener-s. Brass screw; non-corroding beryllium-copper alloy needle. Length, 2¼". Jaws ¼".
1-C: Same as No. 50-C, but without needle. For railway signal work and meter g. High current-carrying capacity.
7: 20-amp capacity clip used with test sets, voltmeters and shop testing devices. ing teeth on all three sides of jaw. Length, 2¼". Jaws open ⅝".
7-C: Finest clip made for accurate test work. Same as No. 27, but solid copper; ap capacity.
2: Twin clip with jaws at both ends that may be opened separately or together. For splices and temporary repairs. Length, 2". Jaws open 13/32".

ueller mber	Fig.	Description	Net Each, Lots of 1-9	10	100
8-B	O	Cadmium-plated steel clip	$0.34	$0.253	$0.202
8-C†	O	Solid copper clip	.45	.336	.269
0-C†	P	Solid copper needle clip	.70	.53	.421
L-C	P	Solid copper test clip	.52	.389	.31
0	.....	Vinyl insulator for above clips*	.33	.245	.196
7	Q	Cadmium-plated steel clip	.43	.324	.259
7-C†	Q	Solid copper, 40-amp clip	.64	.48	.385
9	.....	Vinyl insulator, 27 and 27-C*	.41	.304	.244
2	R	Cadmium-plated steel twin clip	.35	.265	.213

HEAVY-DUTY TEST AND BATTERY CLIPS

ged interlocking neck construction. Series 25 has meshing teeth on three sides of jaw. l plated steel clips; No. 25, cadmium-plated. Clips with suffix letter -A or -C have er shunt to protect spring. Clips rated 100-amp or more have detachable copper r lug.

eller mber	Fig.	Length	Jaws Open	Cap., Amps	Material	Net Each, Lots of 1-9	10	100
-A	S	2⅞"	¾"	25	Steel	$0.65	$0.49	$0.39
	Q	3"	½"	40	Steel	.61	.46	.366
-C†	Q	3"	¾"	75	Copper	1.07	.80	.64
-A	S	4"	1 1/16"	50	Steel	1.20	.90	.72
-C†	T	4½"	1 1/16"	100	Copper	2.59	1.94	1.55
-A	T	6"	1⅝"	100	Steel	3.31	2.48	1.99	
-C†	T	6"	1⅝"	200	Copper	5.25	3.94	3.15
	.....	Vinyl insulator for 24-A, 25 or 25-C*				.55	.413	.33
	.....	Vinyl insulator for 21-A or 21-C*				.90	.68	.542
	.....	Vinyl insulator for 11-A or 11-C*				1.76	1.32	1.05

G BRUTE" TEST CLIP AND WELDING GROUND CLAMP (FIG. T)

d copper clip rated 300 amps capacity; even more on short tests. Equipped with ovable copper lug for cable attachment. Improved pin-hinge construction. Widely l as welding ground clamp; many applications in heavy test work, on thawing machines for grounding gasoline trucks. Length, 7¾". Jaws open 2¼".

ueller mber	Description	Net Each, Lots of 1-9	10	100
3-C†	"Big Brute" 300-amp solid copper clip	$9.33	$7.00	$5.60
5	Red or black insulator for above	4.36	3.27	2.62

PLIER-TYPE BATTERY CLIPS

po-Clip: For battery booster cables and fast chargers. High quality construction and -coated spring assure long-life. Built-in solder-strap and clinching ears for quick le attachment. Minimum handle spread for easy grip, yet has giant 1 9/16" jaw spread. nished with red or black vinyl handle insulators. 6" long. Marked for polarity.
my-Hippo Clip: For battery operated equipment and automotive usage. Flat, wide dle allows positive grip. Won't "squirt away". Exclusive built-in solder-strap and ching ears for convenient wire attachment. High quality plated spring. Large, 1⅛" spread. Furnished with red or black vinyl handle insulators. 3" long.

Mueller Number	Fig.	Description	Net Each
41-A	V	Hippo-Clip, steel, bright copper-plated, 100 amps	$1.35
41-C†	V	Hippo-Clip, solid copper construction, 200 amps	3.00
46-A	U	Pigmy-Hippo Clip, steel, bright copper-plated, 50 A	.45
46-C	U	Pigmy-Hippo Clip, solid copper construction, 75 A	.66

ecify red or black; also available in yellow, blue, white or green, priced 10% higher. d. Spec. W-C-440a, Feb. 5, 1964.

QUALITY, HEAVY-DUTY BATTERY BOOSTER CABLES (FIG. W)

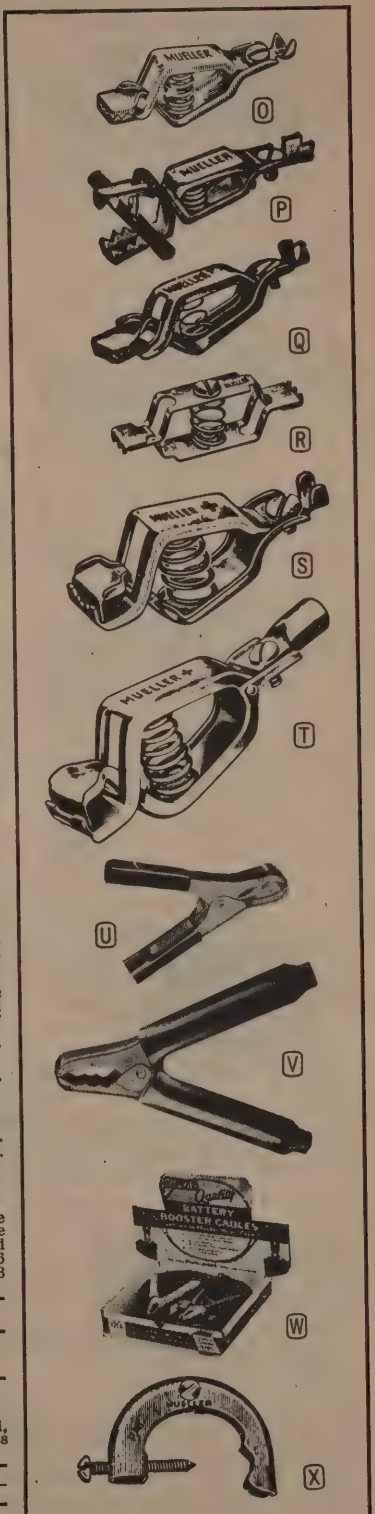
connecting external, booster battery to "dead" battery in a disabled vehicle. Pure per cables are finely stranded with rubber insulation for high flexibility even in the lest weather. Equipped with Hippo-Clips (described above) which are both clinched cable insulation and soldered for genuine trouble-free operation. Nos. 8A6 and 12A6 e 6 ga. cable with 259 strands of #30 copper wire. No. 12C4 has 4 ga. cable with 413 ands of #30 copper wire. Each set furnished in attractive display carton.

Mueller Number	Length, Ft.	Cable Gauge	Clip No.	Cap., Amps	Net per Pair
8A6	8	6	41-A	100	$16.20
12A6	12	6	41-A	100	18.60
12C4	12	4	41-C	200	29.70

GENERAL PURPOSE CLAMPIPE GROUND CLAMP (FIG. X)

mmonly used for grounding appliances and all kinds of electrical devices. Patented, anneled construction gives 5-point contact with extreme rigidity. Pointed screw cuts ough to clean, fresh metal for good contact. Takes pipes up to 1¾" O.D.

Mueller Number	Description	Net Each, Lots of 1-9	10	100
58	ClamPipe ground clamp	$0.72	$0.543	$0.434



Pomona Shielded "Black Boxes"

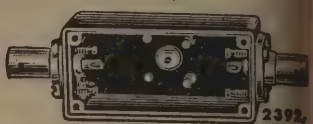
BNC JACK BOTH ENDS



BNC JACK TO BNC PLUG



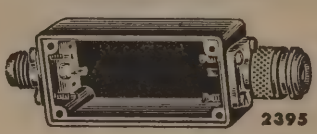
BNC JACK "T"



BNC JACK TO BNC PLUG WITH B/P



TNC JACK TO TNC PLUG



TNC JACK BOTH ENDS



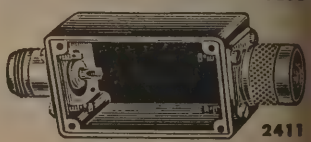
BNC "T" TWO JACKS TO BNC PLUG



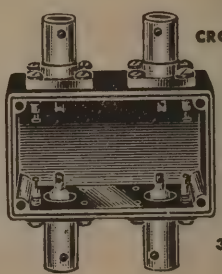
TYPE "N" JACK BOTH ENDS



TYPE "N" JACK TO TYPE "N" PLUG



CROSS CONNECTIONS



UHF JACK BOTH ENDS



UHF JACK TO UHF PLUG



Excellent for RF applications. Permit compact packaging of voltage dividers, isolation or impedance-matching networks, and various other components. Solder turret terminals provide permanent, noise-free connection. Four self-tapping screws secure cover for proper shielding. **Operating Temperature:** −55° C to +150° C. **Working Voltage:** 500 V peak. **Noise Rejection:** Greater than 70 dB. **Shielded Housing:** Diecast aluminum; blue baked-enamel finish per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328. **Cover:** .040" aluminum #1100-H14 with clear anodized finish per MIL-A-8625.

No.	1st End Connector	Center Connector	2nd End Connector	Size, In. L. x D. x W.	Net Each, Lots of 1-24	25-49	50-99	100-249
2390	UG290A/U type BNC jack	None	UG290A/U type BNC jack	2.25x0.88x1.13	$10.85	$ 9.77	$ 9.22	$ 8.14
2391	UG290A/U type BNC jack	None	UG1104A/U type BNC plug	2.25x0.88x1.13	13.50	12.15	11.48	10.13
2392	UG290A/U type BNC jack	UG290A/U type BNC jack	UG290A/U type BNC jack	2.25x0.88x1.13	14.95	13.46	12.71	11.22
2393	UG290A/U type BNC jack	Banana jack bind. posts*	UG1104A/U type BNC plug	2.25x0.88x1.13	16.95	15.26	14.41	12.71
2395	Type TNC jack	None	Type TNC plug	2.25x0.88x1.13	28.50	25.65	24.23	21.38
2396	Type TNC jack	None	Type TNC jack	2.25x0.88x1.13	19.95	17.96	16.96	14.96
2397	Diecast aluminum box with cover and mounting screws; less connectors			2.25x0.88x1.13	3.25	2.93	2.76	2.44
2401	UG290A/U type BNC jack	UG290A/U type BNC jack	UG1104A/U type BNC plug	2.25x0.88x1.13	16.95	15.26	14.41	12.71
2410	UG58A/U type N jack	None	UG58A/U type N jack	2.25x1.13x1.38	17.50	15.75	14.88	13.13
2411	UG58A/U type N jack	None	Type N plug	2.25x1.13x1.38	24.50	22.05	20.83	18.38
2412	Type UHF jack	None	Type UHF jack	2.25x1.13x1.38	16.95	15.26	14.41	12.71
2413	Type UHF jack	None	Type UHF plug	2.25x1.13x1.38	20.75	18.68	17.64	15.56
2417	Diecast aluminum box with cover and mounting screws; less connectors			2 25x1.13x1.38	3.50	3.15	2.98	2.63
3230	UG290A/U type BNC jack	None	UG290A/U type BNC jack	2.25x1.13x1.38	10.75	9.68	9.14	8.06
3231	UG290A/U type BNC jack	None	UG1104A/U type BNC plug	2.25x1.13x1.38	12.95	11.66	11.01	9.71
3232	UG290A/U type BNC jack	UG290A/U type BNC jack	UG290A/U type BNC jack	2.25x1.13x1.38	16.50	14.85	14.03	12.38
3233	UG290A/U type BNC jack	Banana jack bind. posts*	UG1104A/U type BNC plug	2.25x1.13x1.38	18.85	16.97	16.02	14.14
3234	Four BNC UG290A/U jacks			2.25x1.13x1.38	19.50	17.55	16.58	14.63

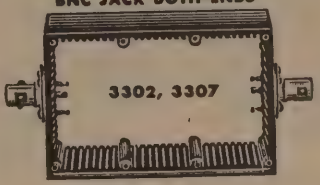
*One red, one black; with solder turret terminals.

SHIELDED "BLACK BOXES" WITH CARD GUIDES AND MOUNTING FLANGES

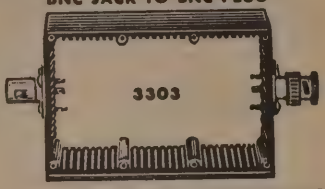
SHIELDED "BLACK BOXES" WITH CARD GUIDES

ted aluminum boxes accept ⅛" circuit rds and shielding dividers. Removable and bottom covers; solder turret ter- als. **Shielded Housing:** Extruded alu- um alloy 6063-T6; blue, baked enamel h, Fed. Std. 595 #25109 over phosphoric per MIL-C-15328. **Cover:** .080" alu- um 1100-H14 with clear anodize finish, -A-8625. **Operating Temp.:** −55° C +150° C. **Working Voltage:** 500 volts t. **Noise Rejection:** Better than 70 dB. ble Inside Space: 4" lg. x 1½" d. x 2½" w.

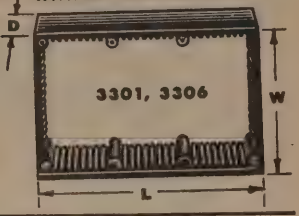
BNC JACK BOTH ENDS



BNC JACK TO BNC PLUG



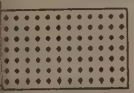
WITHOUT END CONNECTORS



mona mber	1st End Connector	2nd End Connector	Size, In. L. x D. x W.	Net Each, Lots of 1-24	25-49	50-99	100-249
301	None	None	4.13 x 1.66 x 2.68	$15.50	$13.95	$13.18	$11.63
302	UG290A/U type BNC jack	UG290A/U type BNC jack	4.13 x 1.66 x 2.68	23.85	21.47	20.27	17.89
303	UG290A/U type BNC jack	UG1104A/U type BNC plug	4.13 x 1.66 x 2.68	25.95	23.36	22.06	19.46
306*	None	None	4.13 x 1.66 x 2.68	14.50	13.05	12.33	10.88
307	Isolated BNC jack	Isolated BNC jack	4.13 x 1.66 x 2.68	31.50	28.35	26.78	23.63

npainted.

CIRCUIT MOUNTING BOARDS



Pre-cut to proper size for rapid assembly of components. Boards slide easily into box card guides. Boards, ⅛" thick. **Patterns: A**, .062" dia. holes on .200" centers; **B**, .042" dia. holes on .100" centers. **Size:** 2.39" x 1.50".

mona mber	Pat- tern	No. of Holes	Material	Net Each, Lots of 1-24	25-49	50-99	100-249
321	A	12 x 7	Paper-Epoxy	$1.10	$0.99	$0.94	$0.83
322	.....	None	Paper-Epoxy	.95	.86	.81	.71
323	A	12 x 7	Glass-Epoxy	1.10	.99	.94	.83
324	.....	None	Glass-Epoxy	1.10	.99	.94	.83
325	A	24 x 15	Glass-Epoxy*	2.25	2.03	1.91	1.69
326	B	24 x 15	Glass-Epoxy	1.10	.99	.94	.83

opper clad, one side.

SHIELDING DIVIDERS

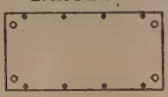


Aluminum divider is excellent for separating the box into shielded compartments. Made of .063" aluminum, clear anodized per MIL-A-8625. **Size:** 2.39" x 1.50"; mounting flanges with two #4-40 holes spaced 1.500" apart.

Pomona No. 3327—Net, Lots 1-24 . . **$2.25** 25-49 **$2.03**; 50-99 **$1.91**; 100-249 . **1.69**

Pomona No. 3334—Same except 3.90" lg. Net, Lots 1-24 . . . **$2.75** 25-49 . . . . . **$2.48**; 50-99 . . . . . **$2.34**; 100-249 . . . . . **2.06**

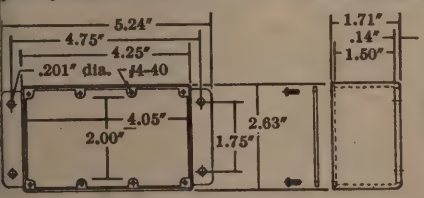
LARGER BOTTOM PLATE FOR MOUNTING



Larger plate, when attached to box, provides flanges for mounting. Made of .080" aluminum 1100-H14, clear anodized per MIL-A-8625. **Size:** 5.25" x 2.50"; four mtg. holes, .201" dia., spaced 4.75" x 1.75". **Pomona No. 3328**—Net, Lots 1-24 . . **$3.95** 25-49 . **$3.56**; 50-99 . **$3.36**; 100-249 . **2.96**

SHIELDED "BLACK BOXES" WITH MOUNTING FLANGES

cellent for RF applications. Permit compact packaging of ltage dividers, isolation or impedance-matching networks, and rious other components. **Two flanges for rapid mounting.** ider turret terminals provide permanent, noise-free connection. ght #4-40 x ¼" screws secure cover for proper shielding. **Operat- g Temperature:** −55° C to +150° C. **Working Voltage:** 500 V peak. **Noise Rejection:** Greater than 70 dB. **Shielded Housing:** Diecast aluminum; blue baked-enamel finish per Federal Standard 595 #25109 over phosphoric etch per MIL-C-15328. **Cover:** .080" aluminum #1100-H14 with clear anodized finish per MIL-A-8625.



BNC JACK BOTH ENDS



BNC JACK TO BNC PLUG



TYPE "N" JACK BOTH ENDS



WITHOUT END CONNECTORS



Pomona Number	1st End Connector	2nd End Connector	Net Each, Lots of 1-24	25-49	50-99	100-249
2901	None	None	$ 9.95	$ 8.96	$ 8.46	$ 7.46
2902	UG290A/U type BNC jack	UG290A/U type BNC jack	17.95	16.16	15.26	13.46
2903	UG290A/U type BNC jack	UG1104A/U type BNC plug	20.95	18.86	17.81	15.71
2904	UG58A/U type N jack	UG58A/U type N jack	21.95	19.76	18.66	16.46
2906*	None	None	9.30	8.37	7.91	6.98

Unpainted.

Pomona Patch Cords

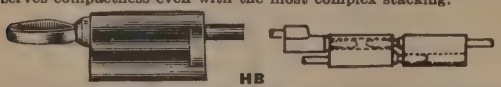
PATCH CORDS AND STACK-UP CONNECTING LEADS

Extra flexible polyvinyl insulation on all wires. Insulating jacket molds the plug, solder connection and wire insulation into a long lasting single piece. Banana plugs are one piece heat treated beryllium copper spring. Contact resistance less than 0.001 ohm per plug in standard .166″ dia. banana jacks. Model B, HB, 1440, 1743, 1987 and 2864 rated 7 amps continuous. Wire is 18 gauge, stranding 65 x 36 T C with 144″ O D. polyvinyl insulation; 5000 WVDC. Reliable solder bonded connections withstand pull test in excess of 50 lbs. **See listings and/or price table for colors and lengths.**



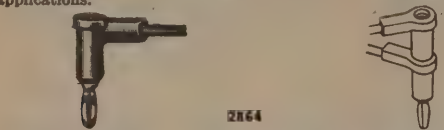
B

Model B—Vertical and horizontal stacking banana plug patch cord. Greatly simplifies circuit connections and changes. Preserves compactness even with the most complex stacking.



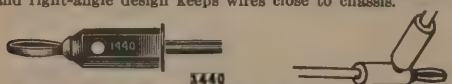
HB

Model HB—Dual purpose extension-stacking patch cord. Dual purpose. Shields all hot leads when used as extension cord. Endless extension couplings possible with any banana plug patch cord. Permits vertical stacking from any jack. Countless 2-in-1 applications.



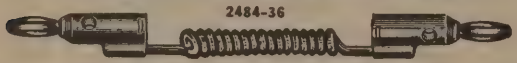
2864

Model 2864—Vertical stacking right-angle banana plug patch cord. Vertical stacking feature allows endless circuit connections and right-angle design keeps wires close to chassis.



1440

Model 1440—Horizontal stacking banana plug patch cord. Similar to Model B, but without jacks; horizontal stacking only.



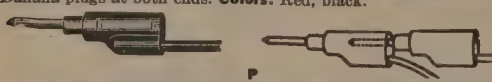
2484-36

Model 2484-36—Retractile patch cord with stack-up banana plugs. Cord is approx. ⅓ length when retracted, permitting its use in place of cords of many lengths. Tough thermoplastic molded to plug body and wire. Wire 20 ga., 41 x 36 T.C. stranded with rubber insulation .145″ O.D. Rated 5 A cont. at 3000 WVDC. **Colors:** Red, black.



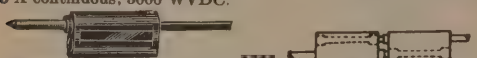
1985

Model 1985—Banana plug patch cord. Ideal for general lab work. Banana plugs at both ends. **Colors:** Red, black.



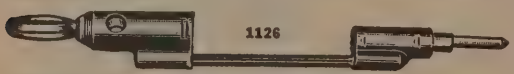
P

Model P—Pin tip vertical stacking patch cord. Ideal for most circuit designs where space is at a premium. Fits instruments with .080″ jacks. Beryllium copper contact for vertical stacking; gold flash finish. Tip .080″ dia. x ½″ extended type. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O.D. Rated 5 A continuous; 3000 WVDC.



1727

Model 1727—Extension or stack-up patch cord. Dual purpose, .080″ dia. tip. Insulates exposed leads when used as extension cord. Many couplings possible. Vertical stacking from .080″ jack. Beryllium copper, heat-treated receptacle, gold flashed. Wire 20 AWG, 41 x 36 T.C. strands, .087″ O.D. Rating same as Model P. **Colors:** Red, black



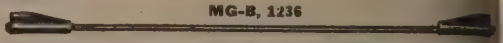
1126

Model 1126—Banana plug to pin stack-up patch cord. Combination of Model B and P: Stack-up banana plug on one end; stack-up pin tip other end. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O D Rating same as Model P **Colors:** Red, black



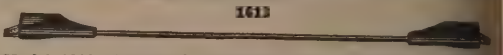
1081

Model 1081—Miniature banana plug stack-up. Fits miniature banana jacks .104″ dia. One-piece, beryllium copper spring, gold flashed. Wire 20 ga., 41 x 36 T.C. stranded with polyvinyl insulation .087″ O.D. Rating same as Model P.



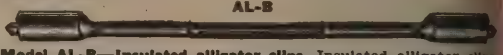
MG-B, 1236

Model MG-B—Insulated minigator clips. Insulated, cadmium-plated steel, miniature clips on each end. Wire 18 ga., 65 x 36 T.C. stranded, polyvinyl insulation .144″ O.D. **Colors:** Red, black. **Model 1236—Insulated minigator clips.** Same as Model MG-B above, but wire 20 ga., 41 x 36 T.C. stranded; polyvinyl insulation, .087″ O.D. **Colors:** Red or black.



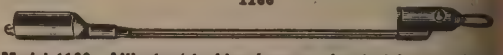
1613

Model 1613—Insulated microgator clips. Insulated microgator clips on each end of 20 ga., 41 x 36 T.C. stranded wire with flexible polyvinyl insulation, .087″ O.D. Clips are solid copper. **Colors:** Red or black



AL-B

Model AL-B—Insulated alligator clips. Insulated alligator clips on each end of 18 ga. 65 x 36 stranded wire with flexible polyvinyl insulation .144″ O.D. Cadmium-plated steel clips. **Colors:** Red or black.



1166

Model 1166—Alligator/stacking banana plug test leads. Adapts to equipment using standard banana jacks. Insulated, cadmium-plated steel alligator clip on one end; banana plug molded to other end. Wire 18 ga., 65 x 36 T.C. stranded. Extra flexible polyvinyl insulation .144″ O.D. **Colors:** Red, black.



1959

Model 1959—Alligator/banana plug test leads. Insulated, cadmium-plated steel alligator clip on one end; banana plug molded to other end. Wire 18 ga., 65 x 36 T.C. stranded. Extra flexible polyvinyl insulation .144″ O.D. **Colors:** Red, black.



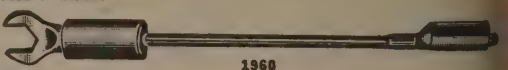
1743

Model 1743—Insulated spade lug jumper. Heavy-duty, machined 1-piece, nickel-plated brass spade lugs molded to 18 AWG, 65 x 36 T.C. stranded wire. Flexible polyvinyl insulation .144″ O.D. **Colors:** Black, red.



1987

Model 1987—Insulated spade lug to banana plug jumper. Same as 1743 except heavy-duty machined, nickel-plated brass spade lug on one end; nickel-plated banana plug other end. **Colors:** Red or black.



1960

Model 1960—Insulated spade lug to alligator clip. Machined nickel-plated brass spade lug on one end; cadmium-plated steel alligator clip vinyl insulated other end. Insulated 18 ga., 65 x 36 T.C. stranded wire. Polyvinyl insulation, .144″ O.D. **Colors:** Red or black.

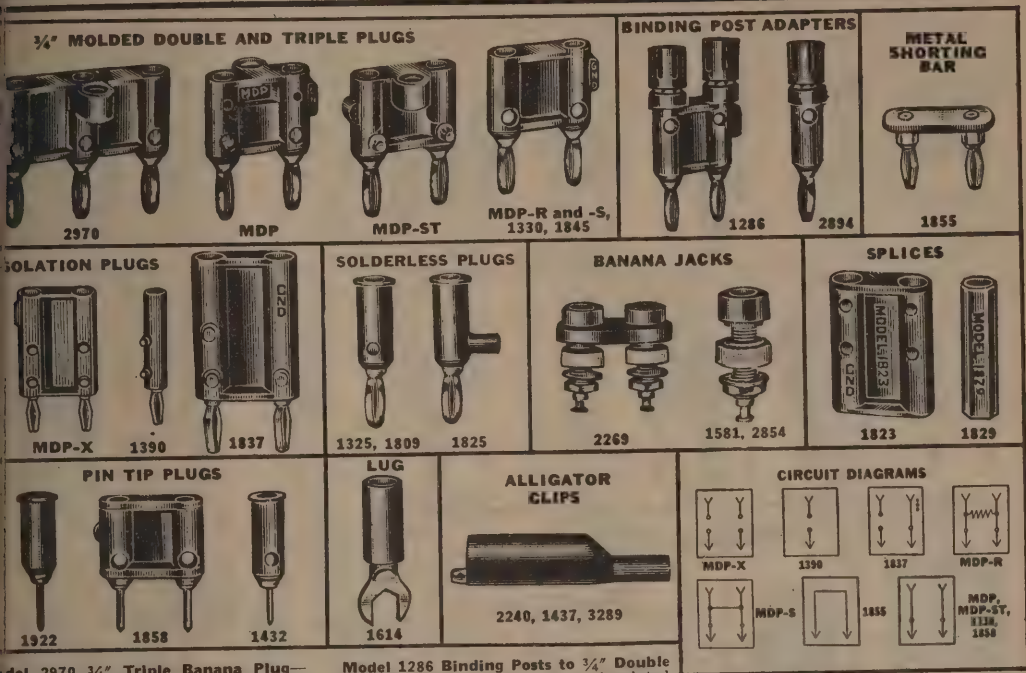
PRICE TABLE

Specify Color: Available in black, brown, red, orange, yellow, green, blue, violet, gray or white unless otherwise noted. Insulators match color of wire on all units.

Pomona Models*	Net Each, Lots of			
	1-24	25-49	50-99	100-249
AL-B-4, -8, -12, -24, -36†	$2.25	$2.03	$1.91	$1.69
B-4, -8, -12, -18, -24, -36‡	1.90	1.71	1.62	1.43
HB-4, -8, -12, -18, -24, -36‡	2.95	2.66	2.51	2.21
MG-B-4, -8, -12, -24, -36†	1.95	1.76	1.66	1.46
P-4, -8, -12, -18, -24, -36†	1.95	1.76	1.66	1.46
1081-4, -8, -12, -18, -24, -36‡	1.95	1.76	1.66	1.46
1126-4, -8, -12, -18, -24, -36†	1.95	1.76	1.66	1.46
1166-4, -8, -12, -24, -36†	1.95	1.76	1.66	1.46
1236-4, -8 -12, -24, -36†	1.95	1.76	1.66	1.46
1440-4, -8, -12, -18, -24, -36†	1.95	1.76	1.66	1.46
1613-4, -8, -12, -24, -36†	1.95	1.76	1.66	1.46
1727-4, -8, -12, -18, -24, -36†	2.75	2.48	2.34	2.06
1743-12, -24, -36†	2.95	2.66	2.51	2.21
1959-4, -8, -12, -24, -36†	2.50	2.25	2.13	1.88
1960-12, -24, -36†	2.95	2.66	2.51	2.21
1985-4, -8, -12, -18, -24, -36†	1.95	1.76	1.66	1.46
1987-12, -24, -36†	2.75	2.48	2.34	2.06
2480-36, -48, -60†§	4.95	4.46	4.21	3.71
2864-4, -8, -12, -18, -24, -36†	2.95	2.66	2.51	2.21

*Suffix indicates length: -4, 4″; -8, 8″; -12, 12″, etc. All models also available in longer lengths; information and prices available on request. †Specify red or black. ‡Specify colors above (10 colors available). §Extended length.

omona Plugs and Adapters



del 2970 ¼" Triple Banana Plug—al for balanced line 2-conductor shielded le assemblies. Banana jacks permit top ck-up for multiple connections. Set ews for leads. **Colors:** Red or black.

del MDP ¼" Double Banana Plug—ilar to 2970 but double plug on ¾" s. Top stack-up type with set screws. **ors:** Black, brown, red, orange, yellow, en, blue, violet, gray, white.

del MDP-ST—Similar to MDP but ier turret terminals. **Color:** Black.

del MDP-S ¾" Double Banana Plug h Insulated Shorting Bar—Banana gs internally solder-bonded with 14 ga. e. Jacks for top stack-up; body cross es for side stack-up. Resistance under milliohms installed. **Colors:** Red, black, ite.

del MDP-R ¾" Double Banana Plug h Precision Resistor—For uses requir- rapid interchange of resistances. De- sited carbon, ½-watt, 1% resistor ided internally. **Specify** 50, 75, 120, 130, 0, 200, 250, 500, 600, 900, 1K, 5K, 10K, K, 50K, 100K, 200K, 250K or 500K ms; 1, 2, 5 or 10 megohms (value mped on plug top). **Color:** Red.

del 1845 Tip Jacks to ¾" Double nana Plug Adapter—Permits .080" tip gs to be used with equipment having " banana jacks. Body cross holes for e stack-up. **Color:** Black.

del 3600 Triaxial Cable Plug—For use th RG 108A/U and Belden 9272. Lgth., 50", dia., .50".

del 1330 Component-Mounting ¼" uble Banana Plug—Features recess for unting small components, set screws for ds, and banana jacks for top stack-up of ultiple connections. **Colors:** Red or black.

del 1330-ST—Similar to 1330 but solder rret terminals. **Colors:** Red or black.

Model 1286 Binding Posts to ¾" Double Banana Plug Adapter—Has insulated binding posts on ¾" ctrs. for rapid mounting and interchangeability of components and top stack-up. Thru-holes in plug body provide side stack-up. **Color:** Black body; red and black posts.

Model 2894 Binding Post to Single Banana Plug Adapter—Features insulated binding post for top stack-up and .166" cross hole in body for side stack-up. Single banana plug is for use with standard .166" banana jack. **Colors:** Red or black.

Model 1855 Metal Shorting Bar to ¼" Double Banana Plugs—Low profile, nickel-plated brass shorting bar. Double plugs on ¾" ctrs. swaged to ½2" thick bar. Resistance under 1.5 milliohms installed.

Model MDP-X ¼" Double Banana Plug with Four Terminal Isolation—Top stack-up receptacles isolated from plugs. Ideal for inserting matching networks in lab VTVM's, signal generators, etc. Gold-flashed solder turret terminals. **Color:** Red.

Model 1390 Single Banana Plug with Two Terminal Isolation—Top stack-up receptacle (.166" jack) isolated from lower plug to permit addition of series resistors, diodes, etc. Gold-flashed solder turret terminals. **Colors:** Red or black.

Model 1837 ¼" Double Banana Plug with Three Terminal Isolation—Excellent for L and Pi-networks. Gold-flashed solder turret terminals. Straight feed-thru ground; hot side isolated. Receptacles, .166" jacks on ¾" ctrs. **Color:** Blue.

Model 1325 Stack-Up Solderless Banana Plug—Upper .166" banana jack to single banana plug. Set screw for wire. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 1825—Same as 1325 but with integral safety collar to cover exposed wire leads. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 1809 Tip Jack to Banana Plug Adapter—Permits .080" pin tip patch cords to be used with banana jack equipment. .166" cross hole in body for side stack-up. **Colors:** Red or black.

Model 2269 Insulated ¼" Double Banana Jack Assembly—Solder turret terminals. Lexan insulators. Two ⅜" holes on ¾" ctrs. Mounts in panels .035" to .275" thick. With washers, nuts. One red, one black jack. **Plate Colors:** Black, **2269-0**; or red, **2269-2.**

Model 1581 Insulated Banana Jack Assembly—Single banana jack version of 2269 with Lexan insulator, solder turret, etc. Insulator head molded to body. Rated 2500 WVDC. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white.

Model 2854 Gold-Plated Insulated Banana Jack Assembly—Similar to Model 1581.

Model 1823 ¼" Double Banana Plug Splice—Offers rapid method for splicing cables. Thermoplastic body; .166" jacks on each end on ¾" ctrs. **Colors:** Red or black.

Model 1829 Single Banana Plug Splice—Single splice version of 1823. One jack on each end. **Colors:** Red or black.

Model 1922 Stack-Up Solderless Pin Tip Plug—Internal set screw for wire. Gold-flashed tip jack accepts .080" pin. **Colors:** Black or red.

Model 1858 ¼" Banana Jacks to Double Pin Tip Adapter—Permits use of single or double banana plugs with tip jack equipment. .080" pin tips on ¾" ctrs. Internal set screws. **Color:** Black.

Model 1432 Banana Jack to Pin Tip Adapter—.166" jack to .080" pin tip with .166" cross hole in body for side stack-up. **Colors:** Red or black.

Model 1614 Insulated Spade Lug Adapter—.166" banana jack to lug with .26" opening. Fits ¼" stud. **Colors:** Red, black.

Model 2240 Insulated Alligator Clip to Banana Jack—Vinyl-insulated, cadmium plated clip to banana jack. **Colors:** Red or black. Unassembled.

Model 3289 Gold-Plated Insulated Alligator Clip to Banana Jack—Similar to No. 2240.

Model 1437 Insulated Alligator Clip to Pin Tip Jack—Vinyl-insulated clip to gold-flashed, beryllium-copper tip jack. **Colors:** Red or black. Unassembled.

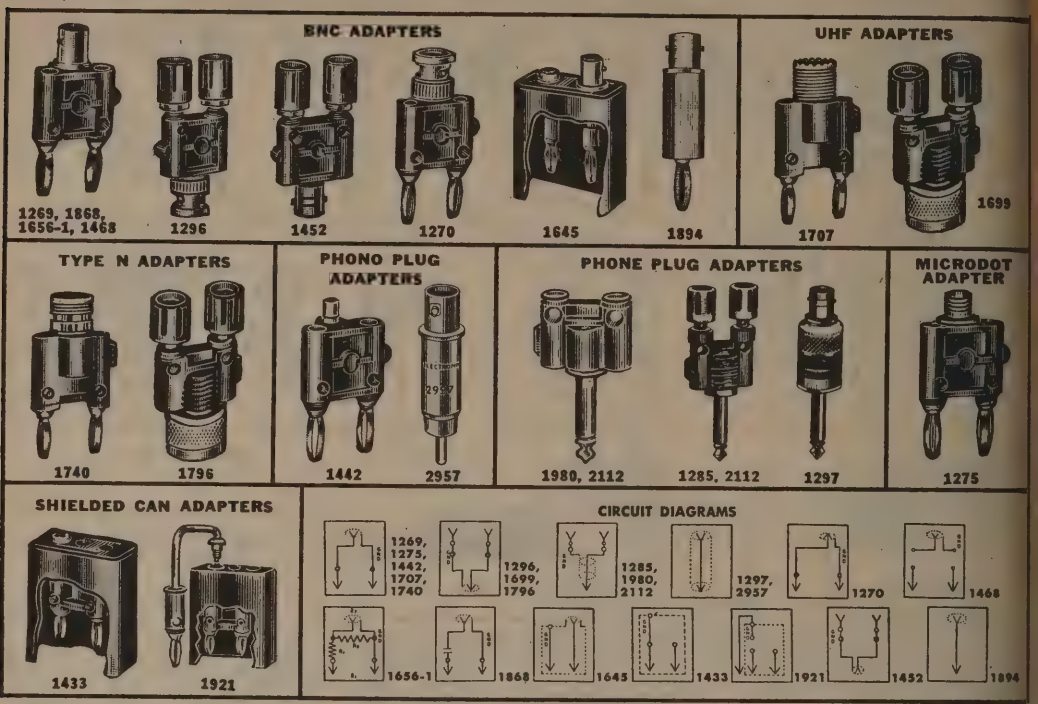
hen item is available in choice of colors, please specify color desired.

Pomona Model	Net Each, Lots of 1-24	25-49	50-99	100-249
DP	$1.25	$1.13	$1.06	$0.94
DP-R	4.25	3.83	3.61	3.19
DP-S	1.95	1.76	1.66	1.46
DP-ST	1.50	1.35	1.28	1.13
DP-X	3.85	3.47	3.27	2.89
286	3.95	3.56	3.36	2.96
325	6.00*	5.40*	5.10*	4.50*
330	1.25	1.13	1.06	.94
330-ST	1.50	1.35	1.28	1.13
390	2.25	2.03	1.91	1.69
432	5.00*	4.50*	4.30*	3.80*
437	9.50*	8.60*	8.10*	7.10*
581	4.50*	4.10*	3.80*	3.40*
614	9.50*	8.60*	8.10*	7.10*
809	9.50*	8.60*	8.10*	7.10*
823	9.50*	8.60*	8.10*	7.10*

Pomona Model	Net Each, Lots of 1-24	25-49	50-99	100-249
1825	$6.00*	$5.40*	$5.10*	$4.50*
1829	4.50*	4.10*	3.80*	3.40*
1837	3.50	3.15	2.98	2.63
1845	1.95	1.76	1.66	1.46
1855	1.75	1.58	1.49	1.31
1858	1.75	1.58	1.49	1.31
1922	17.50*	15.80*	14.90*	13.10*
2240	4.00*	3.60*	3.40*	3.00*
2269-0	6.25†	5.65†	5.30†	4.70†
2269-2	6.25†	5.65†	5.30†	4.70†
2854	8.50*	7.70*	7.20*	6.40*
2894	1.95	1.76	1.66	1.46
2970	2.50	2.25	2.13	1.88
3289	12.50*	11.30*	10.60*	9.40*
3600	11.50	10.35	9.78	8.63

*Pkg. of 10 per color. †Pkg. of 5 per color.

Pomona Test Adapters



Model 1269 BNC Receptacle to ¾″ Double Banana Plug—Permits BNC plug to be used with banana jack equipment. Body cross holes for side stack-up. **Color:** Black.

Model 1868 BNC Receptacle to ¾″ Double Banana Plug Signal Isolation Adapter—Same as 1269, but molded-in ceramic capacitor rated .01 μF at 200 WVDC, ±20%. Isolates DC signals from VTVM or signal generator. **Color:** Blue.

Model 1656 BNC Matching Pad—Same as 1269, but with built-in deposited carbon ¼-watt, 1% resistor.

Model	Color	Match Ohms
1656-1	Yellow	600 to 50
1656-2	Red	600 to 75
1656-3	White	600 to 93
1656-4	Blue	300 to 50

Model 1468 BNC Receptacle to ¾″ Double Banana Plug with Four Terminal Isolation—Similar to 1269, but isolation on all connections. Ideal for matching pad networks. Gold-flashed solder turret terminals. **Color:** Black.

Model 1296 Binding Posts to BNC Plug Adapter—Adapts BNC receptacle to ¾″ spaced banana plugs. Insulated binding posts. Excellent for lab 'scopes. Body cross holes for side stack-up. **Color:** Black body; red and black posts.

Model 1452 Binding Posts to BNC Receptacle Adapter—Similar to 1296 adapter, but adapts BNC plug to ¾″ spaced banana plugs. **Color:** Black body; red, black posts.

Model 1270 BNC Plug to ¾″ Double Banana Plug—Permits BNC receptacle to be used with banana jack equipment. Minimizes number of coaxial connections for maximum efficiency. Body cross holes for side stack-up connections. **Color:** Black.

Model 1645 BNC Receptacle to Shielded ¾″ Double Banana Plug—Adapts BNC plug to ¾″ spaced binding posts. Anodized aluminum shield reduces noise pickup more than 70 dB. Recommended for low level inputs to 'scopes, wave analyzers and similar test instruments. **Color:** Black.

Model 1894 BNC Receptacle (UG1094/U) to Single Banana Plug Adapter—Permits BNC plug to be used with banana jack equipment. Inner conductor connected only. Adapts lab VTVM, 'scope and generator inputs to readily available coaxial cables. **Color:** Black.

Model 1707 UHF Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced banana jacks to UHF plug. Body cross holes for side stack-up. **Color:** Black.

Model 1699 Binding Posts to UHF Plug Adapter—Adapts UHF receptacle to ¾″ spaced banana plugs. **Color:** Black body; red and black binding posts.

Model 1740 N Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced jacks to N plug, as for connecting RF equipment to conventional test equipment. Body cross holes. **Color:** Black.

Model 1796 Binding Posts to N Plug Adapter—Adapts N jack to ¾″ spaced banana plugs. Body cross holes. **Color:** Black body; red and black posts.

Model 1442 Phono Jack to ¾″ Double Banana Plug—Permits phono plug to be used with equipment having banana jacks or binding posts. Body cross holes. **Color:** Black.

Model 2957 BNC Receptacle (UG1094/U) to Phono Plug Adapter—Readily adapts phono jack equipment to available BNC coaxial cables. All metal construction reduces pickup more than 70 dB. **Color:** Natural.

Model 1980 ¾″ Double Banana Jack to Standard Phone Plug Adapter—Adapts phone jack to ¾″ banana plugs. Cross holes. Phone plug ¼″ dia. x 1⅜″ lg. **Color:** Black.

Model 2112 ¾″ Double Banana Jack to PJ-051 Phone Plug Adapter—Permits single or double banana plugs to be used with equipment having 3-circuit phone jacks for ¼″ dia. phone plugs. Tip connected to adapter hot side, ring to ground side. Sleeve, no connection. PJ-051 plug is interchangeable with WE310. **Color:** Black.

Model 1285 Binding Posts to Standard Phone Plug Adapter—Adapts phone jack to ¾″ spaced banana plugs. Insulated binding posts. Body cross holes. Phone plug ¼″ dia. x 1⅜″ lg. **Color:** Black body; red and black posts.

Model 1297 BNC Receptacle (UG1094/U) to Standard Plug Adapter—Permits BNC plug to be used with phone jack equipment. Adapts equipment to available BNC coaxial cables. Phone plug ¼″ dia. x 1⅜″ lg. All metal. **Color:** Natural.

Model 1275 Microdot Receptacle to ¾″ Double Banana Plug—Adapts ¾″ spaced jacks to miniature, screw-on coaxial plug. Body cross holes for side stack-up. Receptacle has 10-32 thread. Impedance, 50 ohms. **Color:** Green.

Model 1433 Shielded ¾″ Double Banana Plug with In-Line Cable Entry—Anodized aluminum shell; ⅞″ dia. cable opening. Gold-flashed solder turret terminals. Noise pickup down 70 dB. One-piece, nickel-plated beryllium copper springs. Ground clearly molded in shell. Rated 15 amps cont. at 1,200 WVDC; capacity, 2.5 pF at 1 MHz. Size, 1⅛″ w. x 1″ d. x 1⅜″ h. **Color:** Black.

Model 1921 Balanced Line, Shielded ¾″ Double Banana Plug—Unique 3-terminal design allows connection to shielded two-conductor cable while maintaining balanced conditions. Anodized aluminum shell. Gold-flashed solder turrets. Low noise and minimum ground loop error. Rated 15 amps cont. at 1,000 WVDC peak, line to shield and at 2,000 WVDC peak, line to line. Capacity at 1 MHz, 2.0 pF line to line and 3.0 pF lines to shield. **Color:** Black.

PRICE TABLE

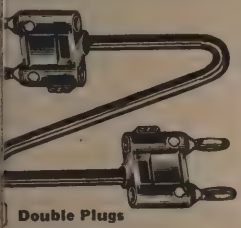
Pomona Model	Net Each, Lots of 1-24	25-49	50-99	100-249	Pomona Model	Net Each, Lots of 1-24	25-49	50-99	100-249
1269	$ 3.75	$ 3.38	$ 3.19	$ 2.81	1656*	$12.50	$11.25	$10.63	$ 9.38
1270	5.50	4.95	4.68	4.13	1699	7.95	7.16	6.76	5.96
1275	17.50	15.75	14.88	13.13	1707	9.50	8.55	8.08	7.13
1285	5.75	5.18	4.89	4.31	1740	9.85	8.87	8.37	7.39
1296	5.95	5.36	5.06	4.46	1796	10.75	9.68	9.14	8.06
1297	5.85	5.27	4.97	4.39	1868	8.50	7.65	7.23	6.38
1433	4.95	4.46	4.21	3.71	1894	2.95	2.66	2.51	2.21
1442	4.95	4.46	4.21	3.71	1921	10.25	9.23	8.71	7.69
1452	4.95	4.46	4.21	3.71	1980	5.95	5.36	5.06	4.46
1468	9.85	8.87	8.37	7.39	2112	12.50	11.25	10.63	9.38
1645	7.85	7.07	6.67	5.89	2957	5.25	4.73	4.46	3.94

*Specify color.

¾" DOUBLE-PLUG STACK-UP PATCH CORD AND TEST LEADS

ded plastic plug body fully insulated. Permits parallel multiple stacking. Ground connection clearly marked. Shielded double plugs : black-anodized aluminum case. One piece beryllium copper spring. Solder bonded noise-free connection. Fits standard banana s .166" dia. **Cable Used: 2BA, 1368, 2184 Series**—Two cond. twisted pair, 18 AWG, stranded 65 x 36 T.C. Vinyl insul.; gray vinyl et .250" O.D. Nom. cap., 30 pF/ft. **2BB Series**—Shielded microphone cable, polyethylene insulation; gray vinyl jacket .195" O.D. n. cap., 30.8 pF/ft. **2BC Series 1569-C-48**—RG-58C/U shielded coaxial cable; polyethylene insulation; black vinyl jacket .195" O.D. n. cap., 30.8 pF/ft. Types with two single plugs or clips on one end color coded; one red, one black.

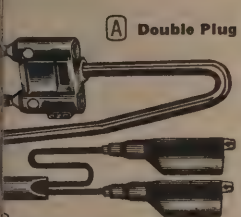
WITH STANDARD AND SHIELDED DOUBLE PLUGS



Double Plugs

BOTH ENDS FIG. A

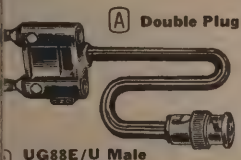
Cable Lgth.		Model No.	Net Each
18"	A	2BA-18	1-9 $6.75
24"	A	2BA-24	1-9 $6.75
36"	A	2BA-36	1-9 $6.75
18"	B	2BB-18	10-24 $6.08
24"	B	2BB-24	25-49 $5.74
36"	B	2BB-36	25-49 $5.74
18"	C	2BC-18	50-99 $5.06
24"	C	2BC-24	50-99 $5.06
36"	C	2BC-36	50-99 $5.06



Aligator Clips

END FIGS. A AND B

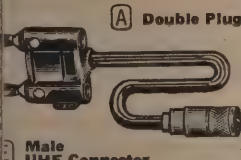
Cable Lgth.		Model No.	Net Each
18"	A	2BA-AL-18	1-9 $8.95
24"	A	2BA-AL-24	1-9 $8.95
30"	A	2BA-AL-30	1-9 $8.95
36"	A	3BA-AL-36	1-9 $8.95
48"	A	2BA-AL-48	1-9 $8.95
60"	A	2BA-AL-60	1-9 $8.95
18"	B	2BB-AL-18	10-24 $8.06
24"	B	2BB-AL-24	10-24 $8.06
30"	B	2BB-AL-30	10-24 $8.06
36"	B	2BB-AL-36	10-24 $8.06
48"	B	2BB-AL-48	10-24 $8.06
60"	B	2BB-AL-60	10-24 $8.06
18"	C	2BC-AL-18	25-49 $7.61
24"	C	2BC-AL-24	25-49 $7.61
30"	C	2BC-AL-30	25-49 $7.61
36"	C	2BC-AL-36	50-99 $6.71
48"	C	2BC-AL-48	50-99 $6.71
60"	C	2BC-AL-60	50-99 $6.71



UG88E/U Male BNC Connector

END FIGS. A AND C

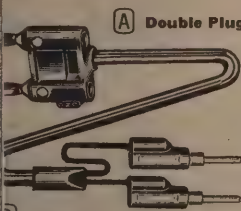
Cable Lgth.		Model No.	Net Each
18"	B	2BB-BNC-18	1-9 $7.50
24"	B	2BB-BNC-24	1-9 $7.50
30"	B	2BB-BNC-30	1-9 $7.50
36"	B	2BB-BNC-36	10-24 $6.75
48"	B	2BB-BNC-48	10-24 $6.75
60"	B	2BB-BNC-60	10-24 $6.75
18"	C	2BC-BNC-18	25-49 $6.38
24"	C	2BC-BNC-24	25-49 $6.38
30"	C	2BC-BNC-30	25-49 $6.38
36"	C	2BC-BNC-36	50-99 $5.63
48"	C	2BC-BNC-48	50-99 $5.63
60"	C	2BC-BNC-60	50-99 $5.63



Male UHF Connector

END FIGS. A AND E

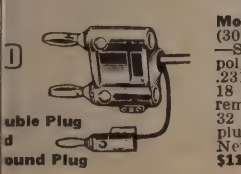
Cable Lgth.		Model No.	Net Each
18"	C	2BC-UHF-18	1-9 $6.95
24"	C	2BC-UHF-24	10-24 $6.26
36"	C	2BC-UHF-36	25-49 $5.91
48"	C	2BC-UHF-48	50-99 $5.21
60"	C	2BC-UHF-60	$5.21



Phone Tips

END FIGS. A AND D

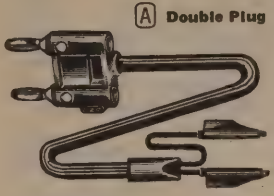
Cable Lgth.		Model No.	Net Each
			1-9 $7.95
18"	C	2BC-PP-18	10-24 $7.16
24"	C	2BC-PP-24	25-49 $6.76
36"	C	2BC-PP-36	50-99 $5.96
48"	C	2BC-PP-48	
60"	C	2BC-PP-60	



uble Plug
d
ound Plug

BOTH ENDS FIG. I

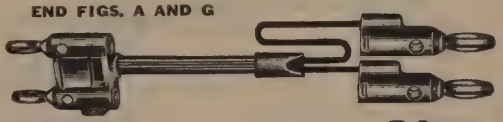
Model 1167-18 (18"), **-24** (24"), **-30** (30"), **-36** (36"), **-48** (48"), **-60** (60")—Shielded 2-conductor mike cable, polyethylene insulation; vinyl jacket .231" O.D. Nom. cap. between cond., 18 pF/ft.; between one cond. and remaining cond. connected to shield, 32 pF/ft. Gray cable and double plug with green single ground plug. Net Each, 1-9, **$12.50**; 10-24, **$11.25**; 25-49, **$10.63**; 50-99, **$9.38.**



END FIGS. A AND F

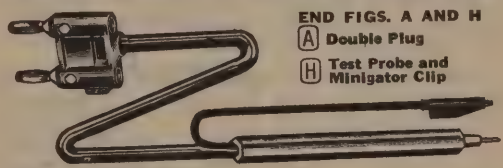
Cable Lgth.		Model No.	Net Each
18"	A	2BA-MG-18	1-9 $8.95
24"	A	2BA-MG-24	1-9 $8.95
30"	A	2BA-MG-30	1-9 $8.95
36"	A	2BA-MG-36	1-9 $8.95
48"	A	2BA-MG-48	1-9 $8.95
60"	A	2BA-MG-60	1-9 $8.95
18"	B	2BB-MG-18	10-24 $8.06
24"	B	2BB-MG-24	10-24 $8.06
30"	B	2BB-MG-30	10-24 $8.06
36"	B	2BB-MG-36	10-24 $8.06
48"	B	2BB-MG-48	25-49 $7.61
60"	B	2BB-MG-60	25-49 $7.61
18"	C	2BC-MG-18	50-99 $6.71
24"	C	2BC-MG-24	50-99 $6.71
30"	C	2BC-MG-30	50-99 $6.71
36"	C	2BC-MG-36	50-99 $6.71
48"	C	2BC-MG-48	50-99 $6.71
60"	C	2BC-MG-60	50-99 $6.71

END FIGS. A AND G



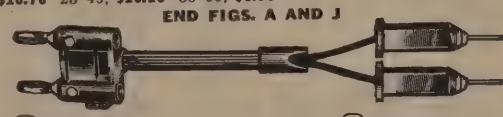
Model 1368-A-18 (18"), **-24** (24"), **-30** (30"), **-36** (36"), **-48** (48"), **-60** (60")—Net 1-9, **$10.95**; 10-24, **$9.86**; 25-49, **$9.31**; 50-99, **$8.21**

END FIGS. A AND H

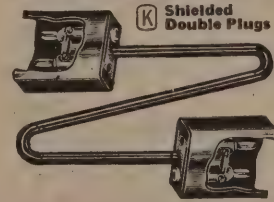


Model 1569-C-48 (48")—Thermo-plastic, red, insulated handle molded to probe tip and cable. Net Each, 1-9, **$11.95**; 10-24, **$10.76** 25-49, **$10.16** 50-99, **$8.96**

END FIGS. A AND J

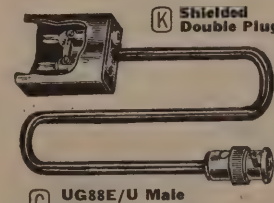


Model 2184-A-24 (24"), **-36** (36"), **-48** (48") or **-60** (60")—Net Ea., 1-9, **$10.95**; 10-24, **$9.86**; 25-49, **$9.31**; 50-99, **$8.21**



BOTH ENDS FIG. K

Cable Lgth.		Model No.	Net Each
18"	C	1550-C-18	1-9 $13.95
24"	C	1550-C-24	10-24 $12.56
30"	C	1550-C-30	25-49 $11.86
36"	C	1550-C-36	50-99 $10.46
48"	C	1550-C-48	
60"	C	1550-C-60	



END FIGS K AND C

Cable Lgth.		Model No.	Net Each
18"	C	1555-C-18	1-9 $11.85
24"	C	1555-C-24	10-24 $10.67
30"	C	1555-C-30	25-49 $10.07
36"	C	1555-C-36	50-99 $ 8.89
48"	C	1555-C-48	
60"	C	1555-C-60	

NOTE: Cable color: 2BA and 2BB Series, std. color gray, matching molded plugs. All models also available in lengths other than those specified; information and prices on request.

CONNECTING LEADS AND CABLE ASSEMBLIES

Cable Used: B—Shielded mike cable with polyethylene insulation and gray vinyl jacket. Nom. cap., 30.8 pF/ft. O.D., .195". **C**—RG-58C/U shielded coax with polyethylene insulation; black vinyl jacket. Nom. cap., 30.8 pF/ft. O.D., .195". Types with two single plugs or clips on one end color coded; one red, one black.

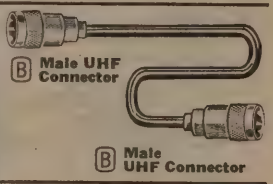
END FIGS. A AND B

Cable Lgth.	Model No.	Net Each
		1-9
18"	AL-C-UHF-18	$8.50
24"	AL-C-UHF-24	10-24
36" C	AL-C-UHF-36	$7.65
48"	AL-C-UHF-48	25-49
60"	AL-C-UHF-60	$7.23
		50-99
		$6.38



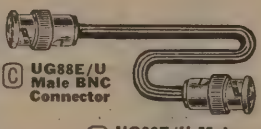
BOTH ENDS FIG. B

Cable Lgth.	Model No.	Net Each
		1-9
18"	UHF-C-18	10.50
24"	UHF-C-24	10-24
36" C	UHF-C-36	$9.45
48"	UHF-C-48	25-49
60"	UHF-C-60	$8.93
		50-99
		$7.88



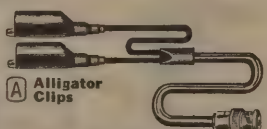
BOTH ENDS FIG. C

Cable Lgth.	Model No.	Net Each
18"	BNC-B-18	
24"	BNC-B-24	
30" B	BNC-B-30	
36"	BNC-B-36	1-9 $7.50
48"	BNC-B-48	10-24 $6.75
60"	BNC-B-60	
18"	BNC-C-18	25-49 $6.38
24"	BNC-C-24	
30" C	BNC-C-30	50-99 $5.63
36"	BNC-C-36	
48"	BNC-C-48	
60"	BNC-C-60	



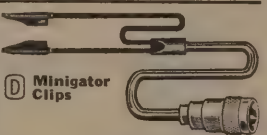
END FIGS. A AND C

Cable Lgth.	Model No.	Net Each
18"	AL-B-BNC-18	
24"	AL-B-BNC-24	
30" B	AL-B-BNC-30	
36"	AL-B-BNC-36	1-9 $8.50
48"	AL-B-BNC-48	10-24 $7.65
60"	AL-B-BNC-60	
18"	AL-C-BNC-18	25-49 $7.23
24"	AL-C-BNC-24	
30" C	AL-C-BNC-30	50-99 $6.38
36"	AL-C-BNC-36	
48"	AL-C-BNC-48	
60"	AL-C-BNC-60	



END FIGS. D AND B

Cable Lgth.	Model No.	Net Each
		1-9
18"	MG-C-UHF-18	$8.95
24"	MG-C-UHF-24	10-24
36" C	MG-C-UHF-36	$8.06
48"	MG-C-UHF-48	25-49
60"	MG-C-UHF-60	$7.61
		50-99
		$6.71



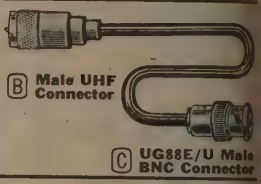
END FIGS. D AND C

Cable Lgth.	Model No.	Net Each
18"	MG-B-BNC-18	
24"	MG-B-BNC-24	
30" B	MG-B-BNC-30	1-9
36"	MG-B-BNC-36	$7.85
48"	MG-B-BNC-48	10-24
60"	MG-B-BNC-60	$7.07
18"	MG-C-BNC-18	25-49
24"	MG-C-BNC-24	$6.67
30" C	MG-C-BNC-30	50-99
36"	MG-C-BNC-36	$5.89
48"	MG-C-BNC-48	
60"	MG-C-BNC-60	



END FIGS. B AND C

Cable Lgth.	Model No.	Net Each
		1-9
18"	1367-C-18	$8.95
24"	1367-C-24	10-24
36" C	1367-C-36	$8.06
48"	1367-C-48	25-49
60"	1367-C-60	$7.61
		50-99
		$6.71



END FIGS. E AND C

Cable Lgth.	Model No.	Net Each
		1-9
18"	1383-C-18	13.50
24"	1383-C-24	10-24
36" C	1383-C-36	12.15
48"	1383-C-48	25-49
60"	1383-C-60	11.48
		50-99
		10.13

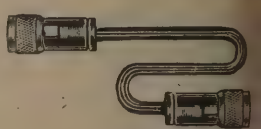


BOTH ENDS FIG. F

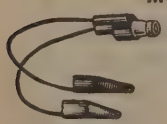
Model 1658-S-18 (18"), **1658-S-24** (24") or **1658-S-36** (36")—RG213/U shielded coax. Net Each, 1-9, **$17.50**; 10-24, **$15.75**; 25-49, **$14.88**; 50-99, **$13.13**†

Model 1658-T-18 (18"), **1658-T-24** (24") or **1658-T-36** (36") RG214/U shielded coax. Net Each, 1-9, **$22.95**; 10-24, **$20.66**; 25-49, **$19.51**; 50-99, **$17.21**†

†For 48" length, add **$0.75** to prices; for 60" length, add **$1.50.**
‡For 48" length, add **3.00** to prices; for 60" length, add **6.00.**



MOLDED BREAKOUTS



2630, 2631

Convert standard coaxial cables to test cables. By connecting proper breakout receptacle or plug to corresponding cable plug or receptacle, any standard coaxial cable becomes a test cable equipped with clip leads. Wire: With alligator clips, 18 AWG, strand, 65 x 36 T.C. Polyvinyl insulation, .144" O.D.; with minigator clips, 20 AWG, strand 41 x 36 T.C., polyvinyl insulation, .087" O.D. Clips and plugs are one black, and one red. Overall length, 7".

BNC RECEPTACLE TO TEST CLIPS

Model 2630 Alligator Clips; **model 2631** Minigator Clips. Net Ea., 1-24, **$4.50**; 25-49, **$4.05**; 50-99, **$3.83**; 100-249, **$3.38**

BNC PLUG TO TEST CLIPS

Model 2885 Alligator Clips; **model 2886** Minigator Clips. Net Ea., 1-24, **$6.95**; 25-49, **$6.26**; 50-99, **$5.91**; 100-249, **$5.21**

BNC RECEPTACLE TO STACKING BANANA PLUGS

Model 3073, Wire, 18 AWG. Net Each, 1-24, **$4.50**; 25-49, **$4.05**; 50-99, **$3.83**; 100-249, **$3.38**

UHF RECEPTACLE TO TEST CLIPS

Model 2632, Alligator Clips; Net Each, 1-24, **$8.95**; 25-49, **$8.06**; 50-99, **$7.61**; 100-249, **$6.71**

BNC PLUG TO STACKING BANANA PLUGS

Model 3957, Wire, 18 AWG. Net Each, 1-24, **$6.95**; 25-49, **$6.26**; 50-99, **$5.91**; 100-249, **$5.21**

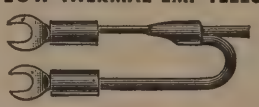
BNC RECEPTACLE TO STACKING PIN TIP PLUGS

Model 3221, Wire, 20 AWG. Two single plugs, .080" dia. Net Ea., 1-24, **$4.50**; 25-49, **$4.05**; 50-99, **$3.83**; 100-249, **$3.38**

BNC PLUG TO STACKING PIN TIP PLUGS

Model 3301, Wire 20 AWG. Two single plugs, .080" dia. Net Ea., 1-24, **$6.95**; 25-49, **$6.26**; 50-99, **$5.91**; 100-249, **$5.21**

LOW THERMAL EMF TELLURIUM COPPER JUMPERS



1756



1691

Tellurium copper, gold plated spade lugs cold-staked to multi-stranded 12 ga. copper wire to minimize thermoelectric effects. Ideal for low voltage and high precision measurements. Offer extremely low cable resistance, minimum contact resistance and thermal EMF when using copper binding posts (less than 0.01 μV/° C). Lugs are gold plated per MIL-G-45204, Type II, Class I. **Model 1756-24** (24") **or 1756-48** (48")—**Shielded lead.** For use with Kelvin Varley voltage dividers for extreme precision in low voltage measurements. Guard shield effectively reduces shunt resistance. Tellurium copper, 1-piece, machined spade lug. Thermoplastic molded to wire and spade lug. Polyethylene primary insulation. Braided shield bare copper. Black polyvinyl jacket per MIL-C-17/2A. Center conductor lug red, shield lug black. Net Each, 1-24, **$14.85**; 25-49, **$13.37**; 50-99, **$12.62**; 100-249, **$11.14**

Model 1693-12 (12"), **-18** (18"), **-24** (24"), **-36** (36"), **-48** (48") or **-60** (60")—**Spade lug jumper.** Single conductor jumper for use where guard shield is not required. Tellurium copper lug each end. Thermo-plastic molded to spade lug body. Polyvinyl insulation rated 105° C; .144" O.D. **Colors:** Specify black, red or green. Net Each, 1-24, **$4.50**; 25-49, **$4.05**; 50-99, **$3.83**; 100-249, **$3.38**

omona Patch Cords and Probes

CABLE ASSEMBLIES AND PATCH CORDS

ilded coax, RG58C/U, polyethylene insulation. Vinyl jacket, " O.D. Nom. cap., 30.8 pF/ft. Model number suffix indicates th in inches, e.g., 2241-C-18 is 18" long.

BNC MALE TO SINGLE BANANA PLUGS

dels 2241-C-18, 2241-[illegible]-24, 2241-[illegible]-36, 2241-[illegible]-48. Net Each, , **$10.50**; 10–24, **$9.45**; 25–49, **$8.93**; 50–99, **$7.88**

BNC MALE TO GR-874

dels 1703-C-24, 1703-C-36, 1703-C-48. Net Each, 1–24, **9.95**; 25–49, **$35.96**; 50–99, **$33.96**; 100–249, **$29.96**

BNC MALE TO SERIES "N" MALE

dels 1366-C-24, 1366-C-36, 1366-C-48. Net Each, 1–9, **$9.95**; 24, **$8.96**; 25–49, **$8.46**; 50–99, **$7.46**

BNC MALE TO BNC FEMALE

dels 2223-C-12, 2223-[illegible]-24, 2223-[illegible]-36, 2223-[illegible]-48, 2223-C-60. , 1–9, **$8.50**; 10–24, **$7.65** 25–49, **$7.23**; 55–99, **$6.38**

BNC FEMALE BOTH ENDS

dels 1808-C-12, 1808-[illegible]-24, 1808-C-36, 1808-C-48, 1808-C-60. , 1–9, **$8.50**; 10–24, **$7.65** 25–49, **$7.23**; 50–99, **$6.38**

TNC MALE BOTH ENDS

dels 1944-C-12, 1944-[illegible]-24, 1944-[illegible]-36, 1944-C-48, 1944-C-60. Each, 1–9, **$14.95**; 10–24, **$13.46**; 25–49, **$12.71**; 99, **$11.21**

BNC MALE TO TNC MALE

Models 1948-C-12, 1948-[illegible]-24, 1948-[illegible]-36, 1948-C-48, 1948-C-60. Net Each, 1–9, **$12.85**; 10–24, **$11.57**; 25–49, **$10.92**; 50–99, **$9.64**

SERIES "N" MALE BOTH ENDS

Models 2256-C-24, 2256-[illegible]-36, 2256-C-48, 2256-C-60. Net Each, 1–9, **$11.50**; 10–24, **$10.35**; 25–49, **$9.78**; 50–99, **$8.63**

ALLIGATOR CLIPS BOTH ENDS

Models 1152-C-12, 1152-[illegible]-24, 1152-[illegible]-36, 1152-[illegible]-48, 1152-C-60. Net Each, 1–9, **$9.50**; 10–24, **$8.55**; 25–49, **$8.08**; 50–99, **$7.13**

SINGLE BANANA PLUGS BOTH ENDS

Shielded coax, RG122/U polyethylene insulation, vinyl jacket, .160" O.D. Nom. cap., 30.8 pF/ft. **Models 2239-R-24, 2239-R-36, 2239-R-48, 2239-R-60.** Net Each, 1–9, **$9.85**, 10–24, **$8.87**; 25–49, **$8.37**; 50–99, **$7.39**

RETRACTILE PATCH CORD WITH DOUBLE BANANA PLUGS

Models 3864-48, 3864-60, 3864-72—One size cord can be used in place of many various lengths. Extended, 48"; retracted, 12". Double banana plugs on ¾" centers. Shielded microphone cable. Center conductor 24 AWG, rubber insulated. Spiral T.C. shield with neoprene jacket, .160" O.D. Net Each, 1–9, **$14.50**; 10–24, **$13.05**; 25–49, **$12.33**; 50–99, **$10.88**

CONNECTING LEADS AND PATCH CORDS



2249

del 2249-C BNC Male Crimp Both Ends—Connectors are nish resistant crimp BNC males equivalent to UG88E/U. ble, RG58C/U shielded coax.; 50 ohm imp.; 30.8 pF/ft.



3220

del 3220 Minigator Clip to Stacking Banana Plug—Cadmium-ted steel clip with vinyl insulator; 1-piece nickel-plated copper ing; thermoplastic molded to plug body and wire (20 AWG, x 36 T.C. strand, .087" O.D. polyvinyl insul.). **Colors:** Specify or black.



3199

del 3199 Push-On BNC Male Both Ends—RG-58C/U shielded xial cable; beryllium copper outer fingers.



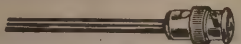
3201

del 3201 Push-On Stacking BNC Male Both Ends—Stacking tch cord for 'scopes, etc. connecting center conductors of BNC ks with common chassis. Wire 18 AWG, stranded 65 x 36 lyvinyl insulation. Contacts heat-treated beryllium copper, d flashed. Temp., −25° C to +125° C. **Colors:** Red or black.



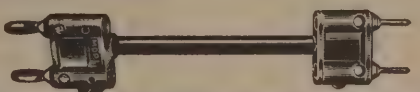
3202

del 3202 Push-On Stacking BNC Male to Stacking Banana ug—Wire and one end same as Model 3201; other end is stack-g banana plug. **Colors:** Red or black.



1661-C

del 1661-C BNC Male UG-88E/U, One End Only—Shielded ax RG-58C/U with plug on one end only.
del 1661-E BNC Male UG-260B/U, One End Only—Shielded ax. RG-59B/U with plug on one end only.



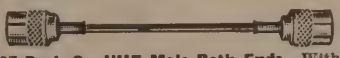
2288

Model 2288 Double Banana Plug to Double Pin Tip Plug—Both plugs ¾" centers. Coax RG-58C/U shielded cable with polyethylene insulation, vinyl jacket; .195" O.D., 50 ohm imp.; nom. cap., 30.8 pF/ft.



2282

Model 2882 BNC Male to Stack-Up Pin Tips—Male BNC UG-88E/U and single gold plated stack-up pin tip plugs .080" O.D. RG-58C/U shielded coaxial cable polyethylene insulated, with vinyl jacket; 50 ohm imp.; nom. cap., 30.8 pF/ft.



3137

Model 3137 Push-On UHF Male Both Ends—With RG-58C/U shielded coaxial cable. Ideal for test interconnections without screwing on or off shell.

PRICE TABLE

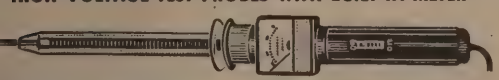
Pomona Models*	Net Each, Lots of 1-9	10-24	25-49	50-99
1661-C-12, -24, -36, -48, -60	$5.15	$4.64	$4.38	$3.86
1661-E-12, -24, -36, -48, -60	5.85	5.27	4.97	4.39
2249-C-12, -24, -36, -48, -60	7.95	7.16	6.76	5.96
2288-C-12, -24, -36, -48, -60	6.95	6.26	5.91	5.21
2882-C-12, -24, -36, -48, -60	7.95	7.16	6.76	5.96
3137-C-12, -24, -36, -48, -60	13.95	12.56	11.86	10.46
3199-C-12, -24, -36, -48, -60	6.85	6.17	5.82	5.14
3201-4, -8, -12, -18, -24, -36, -48, -60†	3.50	3.15	2.98	2.63
3202-4, -8, -12, -18, -24, -36, -48, -60†	2.95	2.66	2.51	2.21

Pomona Models*	Net Each, Lots of 1-24	25-49	50-99	100-249
3220-4, -8, -12, -24, -36†	$2.20	$1.98	$1.87	$1.65
3220-48†	2.40	2.16	2.04	1.80
3220-60†	2.60	2.34	2.21	1.95

*Suffix indicates length in inches. †Specify red or black.

TEST PROBES

HIGH VOLTAGE TEST PROBES WITH BUILT-IN METER



o warm-up time; no batteries. All probes DC. **Accuracy:** ±5% S. High impact thermoplastic handle. High impact polystyrene obe. Supplied less carrying case. Length, 14¾". Wt., 8¼ oz.

omona Model	F. S. Range Volts	Sensitivity Ohms/Volt	Resis.* Megs	Net Each, Lots of 1-49	50-99	100-249
3157	15,000	20K at 50 μA	300	$49.50	$44.55	$38.75
3242A	42,000	20K at 50 μA	720	49.50	44.55	39.65
3312‡	15,000	20K at 50 μA	300	49.50	44.55	39.65

Multiplier. ‡Positive ground.



Model 3295 Carrying Case for High Voltage Probes—Tough, protective thermoplastic. Inside lined with soft, shock-absorbing material. Net Each.....**$7.85**

TEST PROBES WITH BANANA JACK



1589

No. 1589 (Black) or 1589-2 (Red)—Test probe to banana jack. Tip .080" dia., nickel-plated; connected to .166" I.D. banana jack. Heavy duty, ⅜" hex, insulated handle molded to assembly. Size, 6½" lg. overall. Net Each, 1–24, **$1.95**; 25–49, **$1.76**; 50–99, **$1.66**; 100–249, **$1.46**.
No. 1705 (Black) or 1705-2 (Red)—Same as above, but with replaceable phono needle tip. Net Each, 1–24, **$2.75**; 25–49, **$2.48**; 50–99, **$2.34**; 100–249, **$2.06**

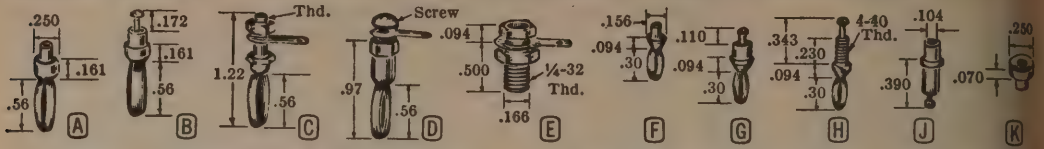
TEST PROBE TO PLUG JUMPERS



1986

Model 1986-48B (Black) or 1986-48R (Red)—Test probe to banana plug. Insulated hand probe molded to wire lead has .080" dia. x ½" lg. pin tip. Other end of 48" lg., 18 AWG (65 x 36 T.C. stranded) wire has molded-on banana plug. Extra flexible polyvinyl insulation .144" O.D. Net Each, 1–24, **$3.25**; 25–49, **$2.93**; 50–99, **$2.76**; 100–249, **$2.44**.

PLUGS, ADAPTERS AND PHENOLIC "BLACK BOXES"



STANDARD BANANA PLUGS AND JACKS

For use with .166″ dia. banana jacks. One piece beryllium copper spring per QQ-C-533; .56″ x .18″. All units nickel plated per QQ-N-290, class 2. Includes hardware where shown. Rated 15 amps continuous; 30 amps intermittent. **Standard Package:** 10.

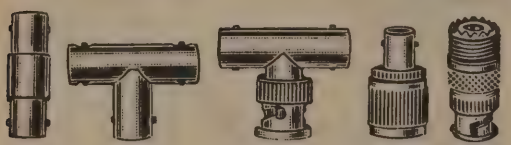
No.	Fig.	Type	Panel Thick.	Net Pkg. of 10, Lots of 1-24	25-49	50-99	100-249
3257	A	Rivet	1/16″	$6.00	$5.40	$5.10	$4.50
3258	A	Rivet	3/32″	6.00	5.40	5.10	4.50
3259	A	Rivet	1/8″	6.00	5.40	5.10	4.50
3260	B	Rivet with turret	1/16″	6.50	5.90	5.50	4.90
3261	B	Rivet with turret	3/32″	6.50	5.90	5.50	4.90
3262	B	Rivet with turret	1/8″	6.50	5.90	5.50	4.90
3263	C	Thd. stud 6-32 x 1/2″	.....	6.50	5.90	5.50	4.90
3264	C	Thd. stud 8-32 x 1/2″	.....	6.50	5.90	5.50	4.90
3265	D	Screw 6-32 x 1/4″	.....	6.50	5.90	5.50	4.90
3266	D	Screw 8-32 x 1/4″	.....	6.50	5.90	5.50	4.90
3267	E	Uninsulated jack	.....	3.50	3.20	3.00	2.60

MINIATURE BANANA PLUGS AND JACKS

For use with .104″ dia. miniature banana jacks. One piece beryllium copper spring per QQ-C-533; .30″ x .12″. Gold plated per MIL-G-45204, Type II. Rated 5 A cont.; 10 A int. **Std. Pkg.:** 10.

No.	Fig.	Type	Panel Thick.	Net Pkg of 10, Lots of 1-24	25-49	50-99	100-249
3268	F	Rivet	1/16″	$5.00	$4.50	$4.30	$3.80
3271	F	Rivet	3/32″	5.00	4.50	4.30	3.80
3272	F	Rivet	1/8″	5.00	4.50	4.30	3.80
3273	G	Rivet with turret	1/16″	6.50	5.90	5.50	4.90
3274	G	Rivet with turret	3/32″	6.50	5.90	5.50	4.90
3275	G	Rivet with turret	1/8″	6.50	5.90	5.50	4.90
3276	H	Threaded stud 4-40	.....	7.00	6.30	6.00	5.30
3277	J	Rivet jack w/turret	1/16″	2.50	2.30	2.10	1.90
3278	J	Rivet jack w/turret	3/32″	2.50	2.30	2.10	1.90
3279	J	Rivet jack w/turret	1/8″	2.50	2.30	2.10	1.90
3280	K	Rivet jack	1/16″	2.50	2.30	2.10	1.90
3281	K	Rivet jack	3/32″	2.50	2.30	2.10	1.90
3282	K	Rivet jack	1/8″	2.50	2.30	2.10	1.90

COAXIAL ADAPTERS



3283 3284 3285 3286, 3288 3287

Rapidly adapt and interconnect different types of coaxial connectors. Feature tarnish resistant finish and gold plated contacts.

Pomona No.	Type	Imp., Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
3283	BNC jack to jack	50	$2.85	$2.57	$2.42	$2.14
3284	BNC "T" 3 jacks	50	8.95	8.06	7.61	6.71
3285	BNC "T" jack-plug-jack	50	7.50	6.75	6.38	5.63
3286	BNC jack to UHF plug	.....	4.50	4.05	3.83	3.38

Pomona No.	Type	Imp., Ohms	Net Each, Lots of 1-24	25-49	50-99	100-249
3287	UHF jack to BNC plug	50	$6.50	$5.85	$5.53	$4.88
3288	BNC jack to "N" plug	.....	4.95	4.46	4.21	3.71
3533	BNC plug to plug	50	5.50	4.95	4.68	4.13
3534	Right angle BNC jack to BNC plug	50	6.50	5.85	5.53	4.88
3535	"N" jack to BNC plug	.....	7.95	7.16	6.76	5.96
3778	BNC bulkhead receptacle*	50	6.25	5.63	5.31	4.69
3839	BNC jack cap with chain	.....	1.75	1.58	1.49	1.31
3840	Resist r terminated plug	†	5.75	5.18	4.89	4.31
3841	"N" jack to jack	50	6.50	5.85	5.53	4.88
3842	"N" plug to plug	50	6.95	6.26	5.91	5.21
3843	Right angle "N" jack to "N" plug	50	8.95	8.06	7.61	6.71
3844	BNC jack to TNC plug	50	7.95	7.16	6.76	5.96
3845	BNC jack to "C" plug	50	9.95	8.96	8.46	7.46
3846	BNC jack to jack*, blkhd.	50	9.95	8.96	8.46	7.49
3847	Hermetically sealed BNC jack to jack, bulkhead	50	7.85	7.07	6.67	5.89

*Isolated ground. †Specify resistance; 50, 75, 93, 100 or 600 ohms.

.080" PIN TIP PLUG ACCESSORIES

Pin tips .080″ dia. on ¼″ centers. Specify black or red.

Model 2192 Component Mounting, Tip Jacks to Double Pin Tip Plug, Set Screws. Set screws secure leads or components. Net Ea., 1-24, **$4.50**; 25-49, **$4.05**; 50-99, **$3.83**; 100-249, **$3.38**

Model 1904 Plug, Component Mounting, Double Pin Tip Plug, Solder Turrets—Features recess for mounting components. Net Ea., 1-24, **$2.25**; 25-49, **$2.03**; 50-99, **$1.91**; 100-249, **$1.69**

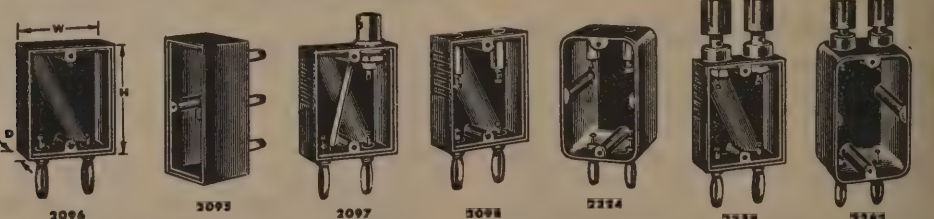
Model 1730 Insulated Shorting Bar—Rating: 5 amps continuous, 10 amps intermittent. Banana jacks to pin tips. Net Each, 1-24, **$2.25**; 25-49, **$2.03**; 50-99, **$1.91**; 100-249, **$1.69**

Model 2072 Metal Shorting Bar—Connecting link for equipment with tip jacks. **Resistance:** 1.5 milliohms. **Rating:** 5 amps continuous, 10 amps intermittent. Net Each, 1-24, **$1.25**; 25-49, **$1.13**; 50-99, **$1.06**; 100-249, **$0.94**

Model 2978 Binding Posts to Doub e Pin Tip Plug—Top/side stack-up connectors. Net Each, 1-24, **$3.50**; 25-49, **$3.15**; 50-99, **$2.98**; 100-249, **$2.63**

Model 2953 Binding Post to Single Pin Tip Plug—Top/side stack-up connectors. Net Each, 1-24, **$1.50**; 25-49, **$1.35**; 50-99, **$1.28**; 100-249, **$1.13**

COMPONENT MOUNTING PHENOLIC "BLACK BOXES"



Create passive and active networks, voltage dividers, isolation networks or attenuators. Solder turret terminals for permanent noise free connection of components. Entire unit may be potted or encapsulated. Cover and two #2-56 screws included. **Housing:** Molded of thermosetting electrical-grade black phenolic; 3720, 3722 and 3724, red phenolic; 3721, 3723 and 3725, green phenolic. **Cover:** Punched XXP laminated paper-base black phenolic. **Solder Turret Banana Plugs:** One piece beryllium copper spring, heat treated, nickel plated, spaced on ¼″ ctr. Brass plug body, solder turret, nickel plated. **Operating Temp.:** −25° to +125° C.

Pomona Number	Description	Size, In. H. x W. x D.	Net Each, Lots of 1-24	25-49	50-99	100-249
2095	Three-in-line banana plugs	2.25 x 1.00 x 1.00	$4.50	$4.05	$3.83	$3.38
2096	Double banana plug	1.75 x 1.44 x 0.69	3.25	2.93	2.76	2.44
2097	BNC jack (UG-1094/U) to double banana plug	1.75 x 1.44 x 0.69	8.75	7.88	7.44	6.56
2098	Banana receptacles (.166″ dia.) to double banana plug*	1.75 x 1.44 x 0.69	4.95	4.46	4.21	3.71
2103, 3722, 3723	Black box with cover and mounting screws	2.25 x 1.00 x 1.00	1.15	1.04	.98	.86
2104, 3724, 3725	Black box with cover and mounting screws	2.38 x 1.53 x 1.53	1.25	1.13	1.06	.94
2105, 3720, 3721	Black box with cover and mounting screws	1.75 x 1.44 x 0.69	1.15	1.04	.98	.86
2224	Banana jacks (.166″ dia.) to double banana plug*	2.38 x 1.53 x 1.53	5.25	4.73	4.46	3.94
2259	Banana jack binding posts to double banana plug†	1.75 x 1.44 x 0.69	7.50	6.75	6.38	5.63
2262	Banana jack binding posts to double banana plug†	2.38 x 1.53 x 1.53	9.50	8.55	8.08	7.13

*With red polarity indicator. †One red, one black binding post; with solder turret terminals.



(A) TEST SOCKET TUBE ADAPTERS

r measuring voltage, resistance, audio, and video from the top the chassis. Inserted between the tube to be tested and its ket. Adapter completes the circuits and makes all the connec- ns accessible. Extended test tabs for use with alligator clips or t prods. Low loss mica-filled molded phenolic construction per IL-M-14, MFE. Power Factor: Less than 0.010 at 10 MHz. ulation Resistance: Over 500,000 megohms at 40% R.H., 24° C. terelement Capacity: About 1 pF. Voltage Breakdown: More an 1,700 volts AC or DC between elements. Models 1779 and /S-12 are molded of electrical grade black phenolic.

Model No.	Description	Net Each, Lots of 1-49	50-99	100-249
/S-7	Seven-pin miniature adapter	$3.25	$2.93	$2.60
/S-8	Eight-pin octal adapter	4.85	4.39	3.88
/S-9	Nine-pin miniature adapter	3.50	3.15	2.80
79	Nine-pin novar adapter	4.50	4.05	3.60
97	Nine-pin magnoval adapter	5.85	5.27	4.68
/S-12	Twelve-pin compactron adapter	4.75	4.28	3.80

(B) TUNER TV TEST SOCKET TUBE ADAPTERS

uality adapters for use with tuners having captive or telescoping be shields. Tube shield or tuner covers do not have to be re- oved. Tall and slim for quick and easy testing. Adapter test tabs ear the tops of tube shields. Interelement distributed capacity, pprox. 1.5 pF. Voltage breakdown between elements exceeds 1,800 olts AC or DC. Pins are .040" dia. All 1²½₂" high except Models 749 and 2742, 2¼" high.

Model No.	Description	Net Each, Lots of 1-49	50-99	100-249
1447	Seven-pin miniature adapter	$3.25	$2.93	$2.60
1449	Nine-pin miniature adapter	3.50	3.15	2.80
2749	Nine-pin novar adapter	6.50	5.85	5.20
1710	Ten-pin miniature adapter	5.95	5.36	4.76
2610	Ten-pin decal adapter	4.85	4.37	3.88
2742	Twelve-pin compactron adapter	6.75	6.08	5.40

(C) SOCKET SAVERS®

ave wear and tear and costly replacement time on original test quipment. Easily installed: Threaded shaft fits through center ole of permanent socket, fastening securely with nut.

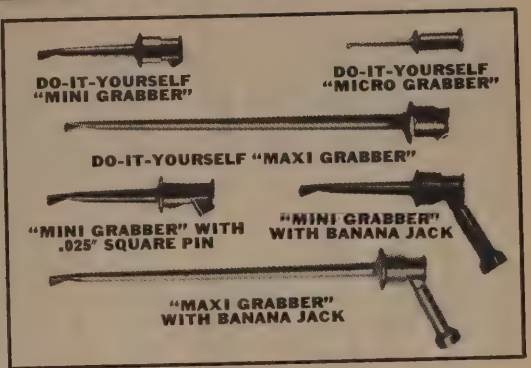
Model No.	Description	Max. Ht.	Net Each, Lots of 1-49	50-99	100-249
SS-7	7-pin miniature	.81"	$2.95	$2.66	$ 2.36
SS-8	8-pin octal	.81"	12.50	11.25	10.00
SS-9	9-pin miniature	.81"	3.50	3.15	2.80
1751	9-pin novar	.81"	4.50	4.05	3.60
SS-11	11-pin octal	1.00"	12.50	11.25	10.00
SS-12	12-pin compactron	.81"	4.25	3.85	3.40
1847	7-pin miniature*	.336"	4.85	4.37	3.88
1849	9-pin miniature*	.336"	4.95	4.46	3.96

*For restricted height use; contact and pin 1-piece, heat-treated beryllium copper.

11-PIN RELAY TEST SOCKET ADAPTER

Contacts accept .093" dia. pin. Pin circles, .750" dia. Pins, .093" dia. Height, 1.36", less pins.

Model 3911 11-Pin Relay Test Socket Adapter—Net Each, Lots of 1-49, **$17.50**; 50-99, **$15.75**; 100-249, **$14.00**.



DO IT YOURSELF "GRABBER"

Provides the user with the ability to build his own leads. Completely field serviceable. Gold plated contact hook connects rapidly to component leads, and tip slides down over .025" square Wire Wrap* pins. Features plunger type action between thumb and two fingers. High temperature material resists melting when soldering. Accepts wire up to .090" dia. Molded nylon body. Beryllium copper contact per QQ-C-533, alloy 170. Gold plated rapidly to component leads and tip slides down over .025" square per MIL-G-45204 type 1. Stainless steel spring. **Colors:** Black, brown, red, orange, yellow, green, blue, violet, gray, white. Packaged in lots of 10 per color except as indicated.

*Reg. Gardner-Denver TM.

Model 3925 Do-It-Yourself "Mini Grabber"—2.56" long (overall); .63" dia. finger grip. Net per Pkg.; 1-24, **$8.50**; 25-49, **$7.70**; 50-99, **$7.20**; 100-249, **$6.40**

Model 4233 Do-It-Yourself "Micro Grabber"—1.67" long (overall); .36" dia. thumb cap. Net per Pkg.; 1-24, **$10.00**; 25-49, **$9.00**; 50-99, **$8.50**; 100-249, **$7.50**

Model 4225 Do-It-Yourself "Maxi Grabber"—Extended length Do-It-Yourself Grabber, designed specifically for high-rise packaging of electronic components where depth of testing point is key factor. 6" overall length; .73" dia. finger grip. Net per Pkg.; 1-24, **$17.50**; 25-49, **$15.80**; 50-99, **$14.90**; 100-249, **$13.10**

Model 4587 "Mini Grabber" with .025" Square Pin—Has a contact hook on one end and a .025" square beryllium copper pin on the other. Designed specifically for attaching .025" square receptacles with .150" square access hole. Net per Pkg.; 1-24, **$19.50**; 25-49, **$17.60**; 50-99, **$16.60**; 100-249, **$14.60**

Model 4723 "Mini Grabber" with Banana Jack—Has standard .166" dia. banana jack built into plunger. One per package. Net Each; 1-24, **$2.95**; 25-49, **$2.66**; 50-99, **$2.51**; 100-249, **$2.21**

Model 4724 "Maxi Grabber" with Banana Jack—Has .166" dia. banana jack built into plunger. One per package. Net Each; 1-24, **$3.95**; 25-49, **$3.56**; 50-99, **$3.36**; 100-249, **$2.96**

MINI TEST CLIPS "GRABBER"

Mini-Test clips of beryllium copper gold plated hook tip. **Wire:** 20 AWG, stranded 41 x 36 T.C. Polyvinyl insulation .087" O.D. **Operating Temp.:** −25° C to +105° C. **Colors:** Black, red. Model No. suffix indicates length, e.g., 3780-8 is 8" long.

MINI-TEST CLIP ONE END ONLY

Models 3780-8, 3780-12, 3780-24, 3780-36. Net Each, 1-24, **$1.00**; 25-49, **$0.90**; 50-99, **$0.85**; 100-249, **$0.75**

Model 3780-48, add **$0.20**; **Model 3780-60,** add **$0.40**

MINI-TEST CLIP BOTH ENDS

Models 3781-8, 3781-12, 3781-18, 3781-24, 3781-36. Net Each, 1-24, **$1.95**; 25-49, **$1.76**; 50-99, **$1.66**; 100-249, **$1.46**

Model 3781-48, add **$0.20**; **Model 3781-60,** add **$0.40**

MINI-TEST CLIP TO STACKING BANANA PLUG

Models 3782-12, 3782-24, 3782-36. Net Each, 1-24, **$1.95**; 25-49, **$1.76**; 50-99, **$1.66**; 100-249, **$1.46**

Model 3782-48, add **$0.20**; **Model 3782-60,** add **$0.40**

MINI-TEST CLIP TO STACKING MINIATURE BANANA PLUG

Models 3784-12, 3784-24, 3784-36. Net Each, 1-24, **$2.10**; 25-49, **$1.89**; 50-99, **$1.79**; 100-249, **$1.58**

Model 3784-48, add **$0.20**; **Model 3784-60,** add **$0.40**

MINI-TEST CLI STACKING PIN TIP PLUG

Pin tip plug: .080" dia ong, brass, gold flashed. Stack-up: Beryllium copper, gold i. Accepts .080" dia. pin. **Models 3785-12, 3785-24, 378** Net Each, 1-24, **$2.10**; 25-49, **$1.89**; 50-99, **$1.7** 249, **$1.58**

Model 3785-48, add **$(** **Model 3785-60,** add **$0.40**

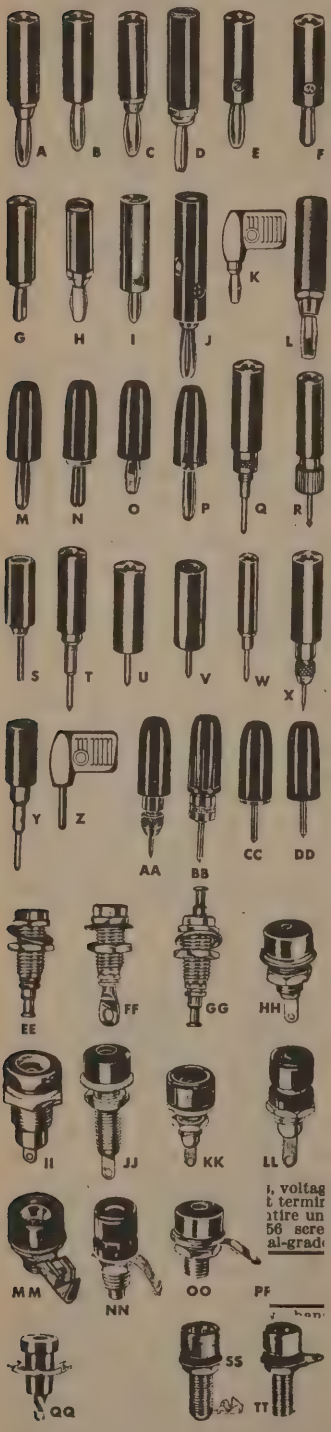
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SURFACE MOU BREADBOARD SOCKETS

For experimental circuit design, portable and enclosed units, plug-in and packaged assemblies. Base insulated to prevent elements shorting to chassis. Four-pin socket has silver-plated beryllium copper contacts; others have Grade-A phosphor-bronze spring contacts. Seven- and nine-pin types mount in centers or on sides; others mount on sides only.

No.	Description	1-49	50-99	100-249
XS-7	Seven-pin miniature socket	$1.70	$1.53	$1.36
XS-8	Eight-pin octal socket	2.95	2.66	2.36
XS-9	Nine-pin miniature socket	1.80	1.62	1.44

H. H. Smith Jacks and Plugs



INSULATED BANANA PLUGS*

H. H. S. No.	Fig.	Description	Net Each
212	A	Solderless with nickel-plated phosphor bronze spring; wire may also be soldered to brass stud or directly into plug; 1" handle	$0.73
232	A	Same as above, but with silver-plated spring	.82
242	A	Same, but with nickel-plated beryllium copper spring	.83
262	A	Same, but with silver-plated beryllium copper spring	.94
211	B	Solderless with nickel-plated phosphor bronze spring; 1" handle	.61
261	B	Same, but with silver-plated spring	.70
271	B	Same, but with nickel-plated beryllium copper spring	.71
281	B	Same, but with silver-plated beryllium copper spring	.80
295	C	Screw-term. solderless; nickel-plated phos. bronze spring; 1" handle	.83
296	C	Same, but with silver-plated spring	.94
297	C	Same, but with nickel-plated beryllium copper spring	.95
298	C	Same, but with silver-plated beryllium copper spring	1.04
236	D	Same, but cross-drilled hole in spacer for solderless connection	1.28
204	E	Set-screw solderless; nickel-plated phosphor bronze spring; 1" handle	.61
254	E	Same, but nickel-plated beryllium copper spring	.71
213	F	Split type with side screw; cross-slotted for spring tension	.56
253	G	Soldered or solderless with internal stud; cross-slotted; 1" handle#	.64
291	H	Stud-soldered midget plug with 5/8" machined butyrate handle; 13/32" plug with nickel-plated phos. bronze spring; specify red or black	.61
292	H	Same, but silver-plated spring	.70
293	H	Same, but nickel-plated beryllium copper spring	.71
294	H	Same, but silver-plated beryllium copper spring	.80
214	I	Adapts tip plug to banana plug; molded butyrate handle with jack for tip plug; nickel-plated phosphor bronze spring; red or black	.69
1511	J	Solderless banana plug; banana plugs in top and side of machined butyrate handle for unlimited, multiple circuits; phosphor bronze nickel-plated spring; specify red, black, yellow or green	1.39
1512	J	Same, but beryllium copper spring	1.58
255	K	Meter plug with 4-leaved nickel-plated phosphor bronze spring; specify red or black	.45
285	L	Giant type with machined phenolic plastic handle, deep solder well; 6-leaved phosphor bronze nickel-plated spring; specify red or black	2.94
476	M	Molded nylon plug; soldered or solderless; phosphor bronze nickel-plated spring; specify color†	.63
477	M	Same, but silver-plated phosphor bronze spring; specify color†	.71
478	M	Same, but nickel-plated beryllium copper spring; specify color†	.73
479	M	Same, but silver-plated beryllium copper spring; specify color†	.82
494	N	Solderless split-type plug with molded nylon handle; specify color†	.52
426	O	Midget version of No. 476; specify color†	.57
427	O	Midget version of No. 477; specify color†	.66
428	O	Midget version of No. 478; specify color†	.68
429	O	Midget version of No. 479; specify color†	.76
455	P	Solderless wrap-around version of No. 476; specify color†	.63
456	P	Solderless wrap-around version of No. 477; specify color†	.71
457	P	Solderless wrap-around version of No. 478; specify color†	.73
458	P	Solderless wrap-around version of No. 479; specify color†	.82

INSULATED TIP PLUGS*

200	Q	Solderless threaded type; 1" handle; 2 1/4" long	$0.52
201	Q	Same, but slightly smaller; 1" handle; 1 19/32" long	.52
237	S	Easy-solder hollow tip; 3/8" molded butyrate handle#	.19
229	T	Heavy duty, easy solder connection; 1" handle, 2 1/4" long#	.52
203	U	Short tip plug inserts flush to handle; 1" handle; 1 1/2" long	.47
283	V	Same as above, but solderless connection	.65
270	W	Subminiature tip with 1" fiber handle; specify red or black	.61
216	X	Phono needle tip with removable chuck; 1" handle; 1 7/8" long#	.73
215	Y	Std. tip plug with jack for banana plug; 3/4" molded butyrate handle; specify red or black	.52
235	Z	Meter tip plug molded in two halves; specify red or black	.70
493	AA	Removable chuck type with molded nylon handle and phono needle; specify color†	.73
490	BB	Solderless type with molded nylon handle; specify color†	.32
492	CC	Short version of above without knurled collar; specify color†	.45
491	DD	Short tip plug; inserts flush to nylon handle; specify color†	.47

INSULATED JACKS‡

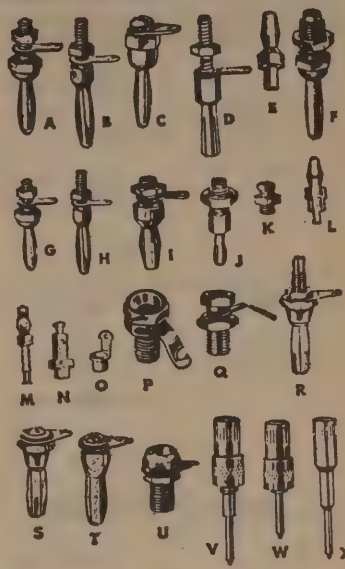
1501	EE	Nylon tip jack with metal shell; wrap-around type; specify color†	$1.14
1502	FF	Same, but spade terminal type; specify color†	1.35
1503	GG	Same, but feed-thru type; specify color†	.70
1505	EE	Same as 1501 but all-nylon construction; specify color†	.52
1506	FF	Spade terminal version of 1505; specify color†	.70
1507	GG	Feed-thru version of 1505; specify color†	.61
202	HH	Molded thermosetting plastic head; phone tip; mounted in 5/16" hole	.51
240	II	Molded nylon tip jack rated 5,000 VAC, 60 Hz; specify color§	.61
206	JJ	Molded thermosetting plastic head combo jack takes standard phone or banana plugs	.64
282	KK	Thermosetting plastic head meter type; phone tip; specify color§	.73
241	LL	Molded nylon head; insulated from panel; phone tip; specify color§	.87
219	MM	Molded thermosetting plastic head banana jack; recessed body#	.61
221	NN	Nylon head and washer; insulated from panel; for standard banana plugs; specify color§	.87
205	OO	Molded thermosetting plastic head banana jack	.40
256	PP	Molded thermosetting plastic head banana jack; turret terminal	.56
279	QQ	Phone tip jack with dished lockwasher "speedi-mount"; molded thermosetting plastic body; 13/32" dia. head	.21
286	SS	Giant banana jack; fits 1/2" hole; panel to 3/4"; tinned copper lug; machined butyrate head; specify red or black	1.90
287	TT	Same as 286 except brass tinned lug	1.90

*Molded thermosetting plastic handle unless otherwise noted. Standard colors: red, black, yellow, green, blue or white except as otherwise noted. †For colors add suffix: **-101**, white; **-102**, red; **-103**, black; **-104**, green; **-105**, blue; **-106**, orange; **-107**, yellow; **-108**, brown; **-112**, purple; **-113**, gray. ‡Standard colors: Red, black, yellow, green, blue or white except as otherwise noted. §Specify red, black, yellow, green or blue. #Red or black only.

H. H. Smith JACKS, PLUGS AND BINDING POSTS

NON-INSULATED BANANA PLUGS AND JACKS

I.S.	Fig.	Description	Net Each*
	A	⅜" threaded stud; hex brass body; nickel-plated phos. bronze spring	$0.68
	B	½" threaded stud; hex brass body; nickel-plated phos. bronze spring	.64
	C	Screw-on type; hex brass body; nickel-plated phos. bronze spring	.68
	C	Same, but with beryllium copper spring	.78
	D	½" threaded stud; hex brass body; split type banana plug	.45
	E	Midget rivet type; silver-pl. brass body; phos. bronze silvered spring	.47
	F	Soldered or solderless type with hex body; phos. bronze spring	.68
	F	Same, but beryllium copper spring	.78
	G	6-32 x ⅜" stud type; hex body; phos. bronze spring nickel-plated	.68
	G	Same, but 6-32 x ½" stud; 1⅜₆" h.	.73
	G	Same, but 6-32 x ¾" stud; 1⅜₆" h.	.78
	G	Same, but 8-32 x ⅜" stud; 1⅜₆" h.	.68
	G	Same, but 8-32 x ½" stud; 1⅜₆" h.	.73
	G	Same, but 8-32 x ¾" stud; 1⅜₆" h.	.78
	H	6-32 x ⅜" stud type; hex body; phos. bronze spring nickel-plated	.59
	H	Same, but 6-32 x ½" stud; 1²³⁄₃₂" h.	.64
	H	Same, but 6-32 x ¾" stud; 1¹⁷⁄₃₂" h.	.70
	H	Same, but 8-32 x ⅜" stud; 1²³⁄₃₂" h.	.59
	H	Same, but 8-32 x ½" stud; 1²³⁄₃₂" h.	.64
	H	Same, but 8-32 x ¾" stud; 1¹⁷⁄₃₂" h.	.70
	I	Midget 4-40 x ⅜" stud; nickel-plated phos. bronze spring; 1⅜₆" h.	.56
	I	Same, but 4-40 x ½" stud; 1⅜₆" h.	.61
	I	Same, but 6-32 x ⅜" stud; 1⅜₆" h.	.56
	I	Same, but 6-32 x ½" stud; 1⅜₆" h.	.61
	J	Midget cross-slotted body type; 10-32 x 2¹⁄₆₄" stud; 2³⁄₃₂" h	.33
	L	Submin. rivet type plug; silver-plated beryl. copper spring; 3⁷⁄₆₄" h.	.44
	M	Submin. 2-56 stud type plug similar to No. 191	.61
	N	Submin. jack rivets direct to chassis or PC board	.46
	O	Submin. jack rivets direct to chassis or PC (Package of 100)	.36
	P	Hex body jack with recessed head; fits ¼" hole; panels to 5⁄16" thick	.35
	Q	Std. hex head banana jack fits ¼" hole; panels to ⅜" thick	.35
	R	Giant plug with deep solder well; 6-leaved phos. bronze spring	1.82
	S	Same, but screw fit instead of stud	1.64
	T	Same as No. 186 but slimmer base	1.39
	U	Giant banana jack fits ⅜" hole; panels to ½" thick	1.09



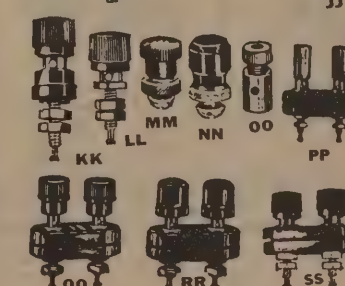
NON-INSULATED TIP PLUGS AND JACKS

	V	Solderless with knurled collar force fit; 1²³⁄₆₄" h.	$0.38
	W	Smaller version of above; 1⅜₆" h.	.38
	X	Heavy-duty force fit type; accepts standard banana plugs	.38
	Y	Standard solder type; 1" long (Package of 100)	.11
	Y	Large I.D. solder type; 1" long (Package of 100)	.25
	Z	Drawn (all-hollow) solder type; 1⅝₆" long (Package of 100)	.05
	AA	Threaded solderless type; knurled collar; will fit plastic handle	.38
	BB	Smaller version of above; 1⅜₆" h.	.38
	CC	Heavy duty threaded type; extra large solder well; 1⅜₆" h.	.38
	DD	Needle tip with removable chuck; 1³⁄₃₂" h.	.56
	EE	Phone tip jack with hex nut; fits ¼" hole; panels to ⅜" thick	.56
	EE	Banana jack with hex nut and lug; fits ¼" hole; panels to 5⁄16" thick	.35



BINDING POSTS

0	FF	5-way grounding type, red or black plastic, captive head; 8-32 thd.	$0.63
0	FF	Same, but 6-32 threaded stud	.63
0	GG	All insulated version of No. 220; red or black plastic, captive head	1.01
9	GG	Same, but 6-32 threaded stud	1.01
7	HH	Metal 5-way post has captive hex nickel-plated brass head	1.20
8	II	Same as No. 137 but with wrap-around terminal	1.20
7	JJ	Molded nylon grd. type with nickel-plated brass insert; red or black	1.09
8	KK	Same, but with Bakelite washer to insulate from chassis; red or black	1.09
9	LL	Molded nylon grounding type; nickel-plated brass insert; red or black	1.01
5	MM	Molded plastic post; brass threaded insert; specify red or black	.56
6	NN	Molded plastic post; brass threaded insert; specify red or black	.56
6	OO	Nickel-plated brass post for phone tips or banana plugs	.64
0	MM	Nickel-plated brass post with screw and lockwasher	.64
9	PP	Dual assembly; metal heads; black styrene cross-slotted	2.46
24BB	QQ	Dual assembly; black plastic heads; styrene washer cross-slotted	1.73
24RR	QQ	Same, both heads red	1.73
24RB	QQ	Same, one red and one black head	1.73
69BB	RR	Same as No. 263, but heads are molded nylon; both heads black	2.25
69RR	RR	Same, both heads red	2.25
69RB	RR	Same, one red and one black head	2.25
84BB	SS	Same as No. 263, but heads are molded nylon; both heads black	1.73
84RR	SS	Same, both heads red	1.73
84RB	SS	Same, one red and one black head	1.73



Lots of 1–499, Net; 500–999, −16⅔%.

LEXAN 5-WAY BINDING POSTS

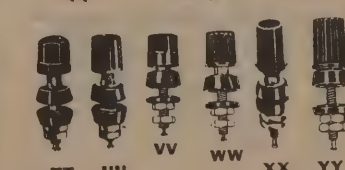
Supplied in six colors except where specified. Red, **-102**; black, **-103**; yellow, **-107**; green, **-104**; white, **-101**; blue, **-105.**

MOUNT IN ½" DIAM. HOLE

57	TT	Hex head, gold plated	$2.25
59	UU	Fluted head, gold plated	2.25
67	TT	Hex head, gold plated, MIL Spec. PB01FA03, red only	2.25
67	TT	Hex head, gold plated, MIL Spec. PB01FA04, black only	2.25
95	UU	Fluted head, gold plated, MIL Spec. PB01FA03, red only	2.25
95	UU	Fluted head, gold plated, MIL Spec. PB01FA04, black only	2.25
257	VV	Hex head, gold plated, Lexan back-up washer	1.96
259	WW	Fluted head, gold plated, flat Lexan back-up washer	1.96
99	TT	Hex head, bright tin plate	1.47
99	UU	Fluted head, bright tin plate	1.47
98	VV	Hex head, bright tin plate, flat Lexan back-up washer	1.30
97	WW	Same, fluted head	1.30

MOUNT IN ⅜" DIAM. HOLE

1517	XX	Gold plated	$2.25
1514	XX	Gold plated, MIL Spec. PB01FA01, red only	2.25
1514	XX	Gold plated, MIL Spec. PB01FA02, black only	2.25
1277	YY	Gold plated, flat Lexan back-up washer	1.96
1275	XX	Bright tin plate per MIL-T-10727	1.47
1276	YY	Bright tin plate per MIL-T-10727, flat Lexan back-up washer	1.30





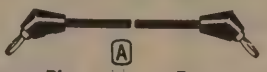
NEW, FREE CATALOG

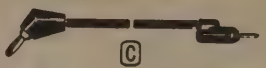
FOR PURCHASING AGENTS AND ENGINEERS

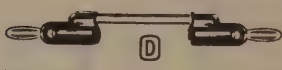
Gives full specifications, parts data and dimensional drawings on all H. H. Smith components. Send for your copy today.

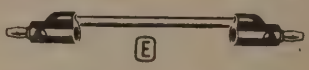
H. H. Smith Jumpers and Test Leads

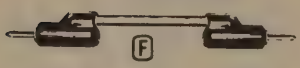
Molded plastic handles per Fed. Spec. L-P349A, Type 3, Class MS. To specify color, add suffix to type number: white, **-101**; red, **-102**; black, **-103**; green, **-104**; blue, **-105**; yellow, **-107**. Unless specified otherwise, all wires are #18 AWG (65/36) flexible wire with 10 KV PVC insulation.

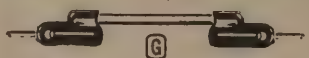


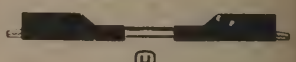


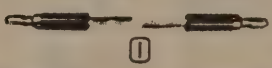


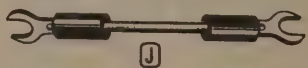




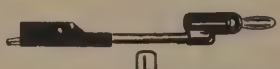














H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
1334-8†	A	8″	Std.	Std.	$1.88
1334-12†	A	12″	Std.	Std.	1.88
1334-24†	A	24″	Std.	Std.	2.07
1334-36†	A	36″	Std.	Std.	2.19
1335-8†	B	8″	Std.	Std.	1.88
1335-12†	B	12″	Std.	Std.	1.88
1335-24†	B	24″	Std.	Std.	2.07
1335-36†	B	36″	Std.	Std.	2.19
1336-8†	C	8″	Std.	.....	1.88
1336-12†	C	12″	Std.	.....	1.88
1336-24†	C	24″	Std.	.....	2.07
1336-36†	C	36″	Std.	.....	2.19
1344-8†	A	8″	Min.	Min.	1.88
1344-12†	A	12″	Min.	Min.	1.88
1344-24†	A	24″	Min.	Min.	2.07
1344-36†	A	36″	Min.	Min.	2.19
1349-8†	A	8″	Min.	Std.	1.88
1349-12†	A	12″	Min.	Std.	1.88
1349-24†	A	24″	Min.	Std.	2.07
1349-36†	A	36″	Min.	Std.	2.19
1510-8	D	8″	Std.	Std.	1.94
1510-12	D	12″	Std.	Std.	1.94
1510-24	D	24″	Std.	Std.	2.07
1510-36	D	36″	Std.	Std.	2.19

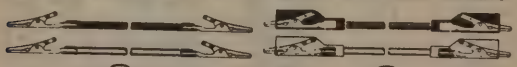
H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
1590-6	E	6″	Min.	Min.	$1.94
1590-12	E	12″	Min.	Min.	1.94
1590-18	E	18″	Min.	Min.	2.07
1590-24	E	24″	Min.	Min.	2.19
1591-6	F	6″	.....	.....	1.94
1591-12	F	12″	.....	.....	1.94
1591-18	F	18″	.....	.....	2.06
1591-24	F	24″	.....	.....	2.07
1595-8	G	8″	.....	.....	2.07
1595-12	G	12″	.....	.....	2.07
1595-24	G	24″	.....	.....	2.25
1595-36	G	36″	.....	.....	2.38
1596-12	H	12″	Std.	Std.	1.63
1596-24	H	24″	Std.	Std.	1.75
1596-36	H	36″	Std.	Std.	1.88
1596-48	H	48″	Std.	Std.	2.00
1596-60	H	60″	Std.	Std.	2.13
1597-12	H	12″	Min.	Min.	1.63
1597-18	H	18″	Min.	Min.	1.75
1597-24	H	24″	Min.	Min.	1.75
1597-36	H	36″	Min.	Min.	1.88
1597-48	H	48″	Min.	Min.	2.00
1597-60	H	60″	Min.	Min.	2.13

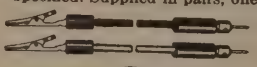
H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
1860-8†	I	8″	Min.	Min.	$1.69
1860-12†	I	12″	Min.	Min.	1.69
1860-24†	I	24″	Min.	Min.	1.82
1860-36	I	36″	Min.	Min.	1.94
1864-12	J	12″	.....	.....	1.63
1864-24	J	24″	.....	.....	1.75
1864-36	J	36″	.....	.....	1.88
1864-48	J	48″	.....	.....	2.00
1864-60	J	60″	.....	.....	2.13
1865-12†	K	12″	Std.	.....	1.38
1865-24†	K	24″	Std.	.....	1.63
1865-36†	K	36″	Std.	.....	1.75
1865-48†	K	48″	Std.	.....	1.88
1865-60†	K	60″	Std.	.....	2.00
1866-12†	L	12″	Std.	Std.	1.50
1866-24†	L	24″	Std.	Std.	1.63
1866-36†	L	36″	Std.	Std.	1.75
1866-48†	L	48″	Std.	Std.	1.88
1866-60†	L	60″	Std.	Std.	2.00
1867-12	M	12″	Std.	.....	1.63
1867-24	M	24″	Std.	.....	1.75
1867-36	M	36″	Std.	.....	1.88
1867-48	M	48″	Std.	.....	2.00
1867-60	M	60″	Std.	.....	2.13

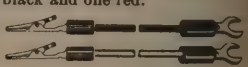
*Available only in red, black, yellow or green. †Available in red and black only. ‡#24 AWG (19/36) wire with 5 KV PVC. •#18 AWG (16/30) wire with PVC.

ALLIGATOR CLIP TEST LEADS

Test leads supplied with extra-flexible, rubber-covered, kinkless, #20, 26/34 strand wire, .125″ O.D., rated 5000 volts. All have alligator clip on one end and various connectors on other end as specified. Supplied in pairs, one black and one red.







H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
604	N	12″	Std.	Std.	$1.63
605	N	24″	Std.	Std.	1.75
606	N	36″	Std.	Std.	1.88
607	N	48″	Std.	Std.	2.00

H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
629	O	12″	Std.	Std.	$1.82
657	O	24″	Std.	Std.	1.94
658	O	36″	Std.	Std.	2.07
659	O	48″	Std.	Std.	2.19

H.H.S. No.	Fig.	Lgth.	Size End 1	Size End 2	Net Each
716	O	12″	Min.	Min.	$1.82
717	O	24″	Min.	Min.	1.94
718	O	36″	Min.	Min.	2.07
719	O	48″	Min.	Min.	2.19
627	P	50″	Std.	.....	2.63
649	Q	50″	Std.	.....	2.00

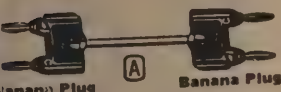
TEST LEAD ADAPTERS

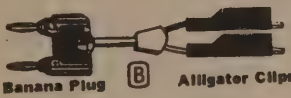
H.H.S. No.	Fig.	Description	Net per 100
214	R	Std. phone tip plug to std. banana plug	$69.00
218	S	Std. banana plug to spade lug	13.00
245	T	Splice, std. banana jack both ends	38.00

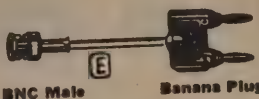


H. H. Smith Patch Cords and Test Adapters

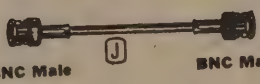
connectors crimped for reliability. Weatherproof seal on all nectors for greater flexibility and strain relief. Cable is RG58/ 50-ohm impedance, unless specified otherwise. When cable end splits into separate connectors, one is red and the other is black Unless specified otherwise, all dual banana plugs are on ¾" centers

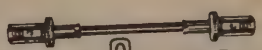


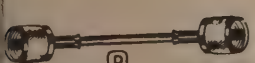


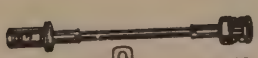


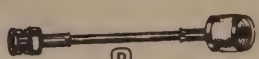










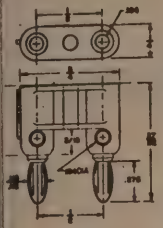


H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
80-12	A	12″	Std.	Std.	$6.00
80-24	A	24″	Std.	Std.	6.25
80-36	A	36″	Std.	Std.	6.80
80-48	A	48″	Std.	Std.	6.78
80-60	A	60″	Std.	Std.	7.00
81-12	B	12″	Std.	Std.	7.25
81-24	B	24″	Std.	Std.	7.50
81-36	B	36″	Std.	Std.	7.75
81-48	B	48″	Std.	Std.	8.00
81-60	B	60″	Std.	Std.	8.25
84-12	E	12″	.....	Std.	7.25
84-24	E	24″	.....	Std.	7.50
84-36	E	36″	.....	Std.	7.75
84-48	E	48″	.....	Std.	8.00
84-60	E	60″	.....	Std.	8.25
87-12	H	12″	.....	Std.	7.25
87-24	H	24″	.....	Std.	7.50

H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
1587-36	H	36″	.....	Std.	$8.38
1587-48	H	48″	.....	Std.	8.57
1587-60	H	60″	.....	Std.	8.75
1589-12	J	12″	.....	.....	7.25
1589-24	J	24″	.....	.....	7.50
1589-36	J	36″	.....	.....	7.75
1589-48	J	48″	.....	.....	8.00
1589-60	J	60″	.....	.....	8.25
1791-12	H	12″	.....	Min.	8.00
1791-24	H	24″	.....	Min.	8.19
1791-36	H	36″	.....	Min.	8.38
1791-48	H	48″	.....	Min.	8.57
1791-60	H	60″	.....	Min.	8.75
1869-12	O	12″	.....	.....	9.00
1869-24	O	24″	.....	.....	9.25
1869-36	O	36″	.....	.....	9.50
1869-48	O	48″	.....	.....	9.75

H.H.S. No.	Fig.	Lgth.	Size Left	Size Right	Net Each
1869-60	O	60″	.....		$10.00
1871-12	P	12″	.....		5.33
1871-24	P	24″	.....		5.58
1871-36	P	36″	.....		5.84
1871-48	P	48″	.....		6.09
1871-60	P	60″	.....		6.34
1878-12	Q	12″	.....		9.00
1878-24	Q	24″	.....		9.25
1878-36	Q	36″	.....		9.50
1878-48	Q	48″	.....		9.75
1878-60	Q	60″	.....		10.00
1879-12	R	12″	.....		7.25
1879-24	R	24″	.....		7.50
1879-36	R	36″	.....		7.75
1879-48	R	48″	.....		8.00
1879-60	R	60″	.....		8.25

MINIATURE DUAL TEST ADAPTERS



SPECIFICATIONS

Ratings: 5 amps AC for 10° C temp. rise, continuous duty; 2000 VAC, 60 Hz continuous working voltage; except where limited by coaxial connectors. Capacity, 3.0 pF nominal between ½" spaced conductors. Resistance, 1 milliohm or less per conductor.

Materials: Molded butyrate body, Fed. Spec. L-P349A, Type 3, Class MS; black color unless otherwise specified. Brass conductor per QQ-B-626, Comp. 22, ½ hard. Four-leaded beryllium copper spring, heat treated. Molded nylon head per MIL-P-20693A. Cadmium-plated steel screws.

Finishes: Nickel-plated conductor per QQ-N-290, Class I, Type VII. Nickel-plated spring. Gold washed terminal. Non-tarnish plate connector.

SET SCREW CONNECTION



ear has dual banana jacks on ½" centers r stacking. Front has set-screws that ecure component leads to conductors.

. H. Smith No. 1749 Banana Plugs— ront has dual banana plugs on ½" cen- rs. Specify red or black.
et Each..... $1.88

. H. Smith No. 1754 with .080" Phone ips—Front has dual .080" phone tips on ½" centers. Specify red or black.
et Each..... $1.75

BNC FEMALE TO BANANA PLUGS



H. H. Smith No. 1758—Rear has BNC series coaxial jack; banana jack holes for stacking. Front has dual banana plugs on ½" centers; banana jack holes for side stacking. Black.
Net Each..... $4.69

TURRET TERMINAL CONNECTION



H. H. Smith No. 1750—Rear has dual banana jacks on ½" centers for stacking. Front has dual banana plugs on ½" centers. Turret terminals for permanent solder connection of leads. Specify red or black.
Net Each..... $2.07

BNC MALE TO BANANA PLUGS



H. H. Smith No. 1759—Rear has BNC series coaxial plug. Front has dual banana plugs on ½" centers; banana jack holes for side stacking. Black. Net Each... $6.57

BINDING POST ADAPTER



H. H. Smith No. 1756 Binding Posts to BNC Male—Front has BNC coaxial plug. Rear has insulated, dual 5-way binding posts, with red and black heads on ½" centers. Banana jack holes for side stacking. Black. Net Each... $6.57

H. H. Smith Standard Dual Test Adapters

CABLE MOUNT DUAL BANANA PLUGS



1675 1676 1787

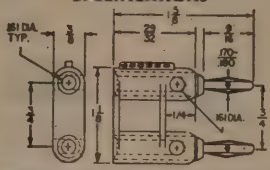
H. H. Smith No. 1675 Set-Screw Plug—Rear has 7/32" dia. cable guide, dual banana jacks on ¾" centers. Front has dual banana plugs on ¾" centers. Set-screws secure leads to conductors. Specify red or black. Net Each.....**$1.69**

H. H. Smith No. 1676 Turret-Terminal Plug—Same as above, but with turret terminals for permanent solder connection. Red or black. Net Each.....**$1.69**

H. H. Smith No. 1787 Shielded Plug—Rear has mounting screw and locating boss, inline cable entry with flush cable guide. Front has dual banana plugs on ¾" centers. Turret terminals for permanent solder connection. Aluminum shield electrically connected to ground conductor; fully enclosed plug and mating binding posts to reduce noise pickup. Net..**$4.38**

SHORTING TYPE PLUGS

SPECIFICATIONS



Materials: Body is molded butyrate per Fed. Spec. L-P349A, Type 3, Class MS; black color unless otherwise specified. Brass conductor per QQ-B-626 Comp. 22, ½ hard. Four-leaved beryllium copper spring, heat treated. Molded nylon head per MIL-P-20693A. Drawn aluminum shield. Cadmium-plated steel screws. **Finishes:** Conductor and spring, nickel-plate per QQ-N-290, Class I, Type VII. Gold-washed terminal. Non-tarnish connector. Black anodized shield. **Ratings:** 15 amps AC for 10° C temp. rise, continuous duty; 5000 VAC, 60 Hz continuous working voltage; except where limited by coaxial connectors. Capacity, 1.0 pF nominal between ¼" spaced connectors. Resistance, 1 milliohm or less per conductor.



1516 1683

H. H. Smith No. 1516 Dual Banana Plug—Rear has dual banana jacks on ¼" centers for stacking. Front has dual banana plugs on ¼" centers; banana jack holes for side stacking. Busbar shorted across line. Specify red or black. Net Each...**$1.69**

H. H. Smith No. 1683 Metal Shorting Bar Plug—Rear has 3/32" thick brass busbar; 15 amps continuous duty. Front has dual banana plugs on ¼" centers. Unit sits flush to panel. Net Each.....**$1.57**

COMPONENT MOUNT DUAL PLUGS



1677 1696



1778

H. H. Smith No. 1677 Set-Screw Plug—Rear has dual banana jacks on ¼" centers for stacking. Front has dual banana jacks on ¾" centers. Set-screws secure component leads to conductors. Specify red or black. Net Each.....**$1.69**

H. H. Smith No. 1696 Four-Terminal Isolation Type Plug—Rear has dual banana jacks on ¼" centers for stacking. Center has turret-terminal connections to isolated front and rear conductors in both Ground and Hot circuits for insertion of matching pad or other 4-terminal networks in input circuits of instruments. Front has dual banana plugs on ¾" centers. Specify red or black. Net Each.....**$4.38**

H. H. Smith No. 1778 Three-Terminal Isolation Plug—Rear has dual banana jacks on ¾" centers for stacking. Center has turret-terminal connections to isolated front and rear conductors in Hot circuit, straight-thru connection of Ground circuit, with terminal, for insertion of "T" and "P" networks in input-output circuits in instruments. Front has dual banana plugs on ¾" centers. Specify red or black. Net Each.....**$4.67**

DUAL BINDING POST ADAPTERS



1682 1684 1688 1698



1689 1695 1691 1756

Rear of each adapter has insulated, dual 5-way binding posts, with red and black heads on ¾" centers. Banana jack holes for side stacking (except No. 1698). Front has plug or jack as indicated.

H. H. Smith No. 1682 Binding Posts to Dual Banana Plugs—Front has dual banana plugs on ¾" centers. Net..**$4.38**

H. H. Smith No. 1684 Binding Posts to 2-Circuit Phone Plug—Front has standard ¼" two-circuit phone plug. Net..**$6.13**

H. H. Smith No. 1688 Binding Posts to BNC Male—Front has BNC series coaxial plug. Net Each.....**$6.25**

H. H. Smith No. 1698 Binding Posts to Isolated BNC Male—Front has BNC coaxial plug. Center has turret-terminal connections to isolated front and rear conductors in both Ground and Hot circuits for insertion of matching pad or other 4-term. networks in input. Net..**$13.75**

H. H. Smith No. 1689 Binding Posts to BNC Female—Front has BNC series female coaxial jack. Net Each.....**$6.13**

H. H. Smith No. 1695 Binding Posts to UHF Male—Front has UHF series coaxial plug. Net Each.....**$7.50**

H. H. Smith No. 1691 Binding Posts to UHF Female—Front has UHF series coaxial jack. Net Each.....**$9.38**

H. H. Smith No. 1756 Binding Posts to BNC Male—Front has BNC series male coaxial plug. Conductors connected thru. Net Each.....**$6.57**

COAXIAL CONNECTOR ADAPTERS



1686 1687 1774 1775 1790 1697

Front of each adapter has dual banana plugs on ¾" centers. Banana jack holes for side stacking (except No. 1697). Rear has coaxial connector as indicated.

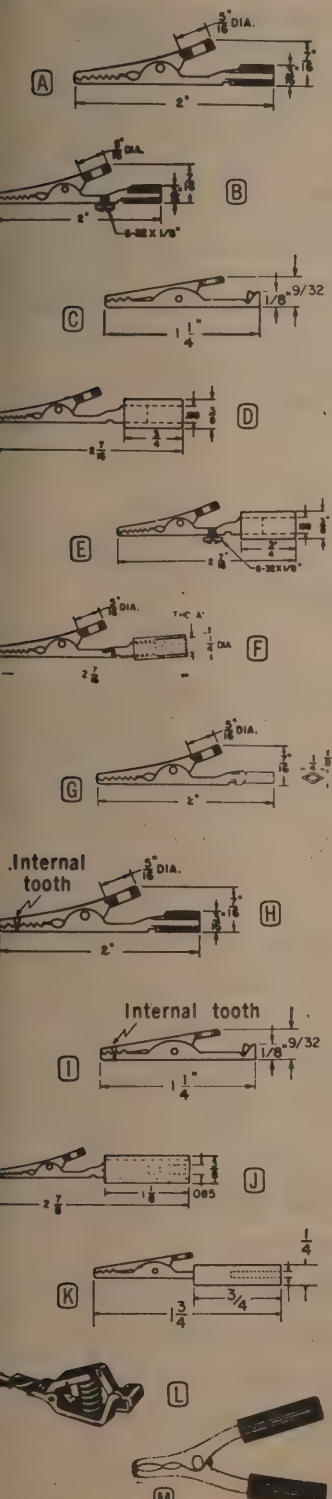
H. H. Smith No. 1686 BNC Female to Banana Plugs—Rear has BNC series coaxial jack. Net Each.....**$4.69**

H. H. Smith No. 1687 BNC Male to Banana Plugs—Rear has BNC series coaxial plug. Net Each.....**$6.25**

H. H. Smith No. 1690 UHF Female to Banana Plugs—Rear has UHF series coaxial jack. Net Each.....**$8.75**

H. H. Smith No. 1697 BNC Female to Isolated Dual Banana Plugs—Rear has BNC series coaxial jack. Center has turret-terminal connections to isolated front and rear conductors in both Ground and Hot circuits for insertion of matching pad or other 4-terminal networks in input circuits. Net Each.....**$11.88**

H. H. Smith Alligator Clips



ALLIGATOR CLIPS

H.H.S. No.	Fig.	Jaws Open	Description	Net per C
			UNINSULATED STANDARD	
300	A	½"	Steel, cadmium-plated	$13.00
380	A	½"	Solid copper	20.00
382	A	½"	Brass, nickel-plated	45.00
350	B	½"	Steel, cadmium-plated	14.00
360	B	½"	Solid copper	21.00
339	B	½"	Brass, nickel-plated	29.00
392	A	¼"	Steel, cadmium-plated	27.00
			JUMBO	
396	A	¾"	Solid copper	$41.00
368	B	¾"	Steel, cadmium-plated	47.00
356	B	¾"	Solid copper	47.00
			MINIATURE	
338	C	3/16"	Steel, cadmium-plated	$11.00
367	C	3/16"	Solid copper	12.00
347†	H		Banana plug	24.00
326†	I		Miniature, solder connection	21.00
			INSULATED* STANDARD	
301	D	½"	Steel, cadmium-plated	$20.00
381	D	½"	Solid copper	27.00
354	D	½"	Brass, nickel-plated	26.00
351	E	½"	Steel, cadmium-plated	20.00
361	E	½"	Solid copper	29.00
362	E	½"	Brass, nickel-plated	35.00
			JUMBO	
393	D	¾"	Steel, cadmium-plated	$34.00
397	D	¾"	Solid copper	47.00
369	E	¾"	Steel, cadmium-plated	52.00
357	E	¾"	Solid copper	52.00

*Specify red or black. †Insulation-piercing tooth in jaws.

ALLIGATOR CLIP ADAPTORS

H.H.S. No.	Fig.	Adapts To	Net per C
		UNINSULATED	
310	F	Phone tip, 10-32	$27.00
720	F	Phone tip, 8-32	17.00
333	G	Phone tip	19.00
		INSULATED*	
304	J	Steel clip, phone tip	$52.00
334	J	Copper clip, phone tip	64.00
305	J	Steel clip, phone or banana	64.00
335	J	Copper clip, phone or banana	75.00
336‡	J	Phone tip	58.00
337‡	J	Solder connection	41.00
1320	K	Miniature steel clip, phone tip	52.00
1321	K	Miniature steel clip, miniature banana	52.00
1322	K	Miniature steel clip, standard banana	52.00
1323	K	Miniature copper clip, phone tip	80.00
1324	K	Miniature copper clip, miniature banana	60.00
1325	K	Miniature copper clip, standard banana	60.00

*Specify red or black. ‡All metal parts insulated.

CLIP INSULATORS

H.H.S. No.	Description	Net per C
331#	Standard alligator clip insulator	$7.00
389#	Miniature alligator clip insulator	6.00
331*	No. 365 battery clip insulator	7.00

*Specify red or black. #Specify red, black, yellow, green, blue or white.

BATTERY CLIPS (FIG. L)

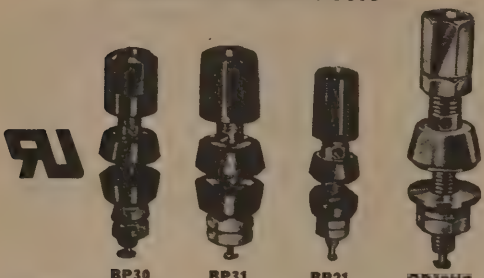
H.H.S. No.	Jaws Open	Length	Capacity, Amps	Net per C
		PLATED STEEL		
365	3/8"	1⅜"	5	$ 22.00
366	9/16"	2"	10	25.00
701	1"	2½"	25	29.00
702	1½"	3⅞"	50	38.00
704	1⅞"	5"	100	101.00
		SOLID COPPER		
703	1"	2½"	50	$ 65.00
705	1¼"	4¼"	100	241.00
706	1⅞"	5¼"	200	162.00

PLIER TYPE BATTERY CLIPS (FIG. M)

H.H.S. No.	Material	Length, Inches	Capacity, Amps	Net per C
712	Steel, copper-plated	3¼	35	$ 29.00
713	Steel, copper-plated	4½	75	49.00
714	Steel, copper-plated	7½	100	61.00
721	Solid copper	7½	300	215.00

Superior Electric® Connectors

FIVE-WAY BINDING POSTS



BP30 BP31 BP21 GP30NC

Design permits connection by (1) standard banana plug; (2) clip-lead to shaft; (3) wire looped around the shaft and clamped; (4) wire permanently clamped through center hole; (5) clamped spade lug connection. Binding posts can be mounted and securely locked in any panel from ⅛" to ¼" thick. Adapter spacers are available for mounting in thinner panels. Current carrying parts of hex nut, fluted nut, miniature and fused types are of gold plated brass. All metal grounding type binding post is made of finely-machined brass nickel-plated and polished. When ordering hex nut, fluted nut or miniature types, specify color by suffix: ***B**—black; **Y**—yellow; ***R**—red; **BL**—blue; **GN**—green; or ***WT**—white.

Superior Type BP30 Hex Nut—Rated 30 amps, 1000 V working. Durable, nylon plastic insulating parts meet MIL-M-20693A, Type IV. Net Each.....**$1.03**

Superior Type BP31 Fluted Nut—Insulating parts of Lexan polycarbonate resin have low loss and power factor; high voltage insulation and impact strength. Rated 30 amps, 1000 V working. Net Each.....**$1.03**

Superior Type BP21 Miniature—Smaller in size. Ideal for use on electrical and electronic apparatus where space is limited. Plastic parts meet MIL-M-20693A, Type IV. Rated 15 amps, 1000 V working. Available in fluted nut design only. Net Each.....**$1.03**

Superior Type GP30NC Grounding—Designed for making rapid connections to ground. Functional design complements other hex nut Superior 5-Way® Binding Posts. Complete with washer and twin 10-32 hex nut. All metal construction. Net Each.....**$1.08**

SUPERCON® ELECTRICAL CONNECTORS



These socket and pin types of plugs and receptacles incorporate many new features. Wiring connections can be soldered or solderless. Two cable fastening screws permit accommodation of a wide range of cable sizes for many needs. Current carrying parts are of gold plated brass for stable electrical contact and resistance to corrosion. Molded plastic parts offer high dielectric strength, durability, color stability, self-locking action, resistance to heat and corrosion. Plug grips of two-piece threaded construction for quick assembly. Receptacles have color-matching caps and bodies for circuit identification in front and back of panel. Plug and receptacles available in red, white, blue, yellow, black or green (see footnote below). Available in 25, 50, 100 and 250 amp ratings.

SOCKET RECEPTACLES

Superior Type*	Rated Amps	Net Each
RS25G	25	$ 6.65
RS50G	50	8.45
RS100G	100	11.10
RS250G	250	18.20

SOCKET PLUGS

Superior Type*	Rated Amps	Net Each
PS25G	25	$ 6.65
PS50G	50	8.45
PS100G	100	11.10
PS250G	250	18.20

PIN RECEPTACLES

Superior Type*	Rated Amps	Net Each
RP25G	25	$ 6.65
RP50G	50	8.45
RP100G	100	11.10
RP250G	250	18.20

PIN PLUGS

Superior Type*	Rated Amps	Net Each
PP25G	25	$ 6.65
PP50G	50	8.45
PP100G	100	11.10
PP250G	250	18.20

*Add suffix to indicate color: ***B**, black; **Y**, yellow; ***R**, red; **BL**, blue; **GN**, green; **WT**, white (RS25G**B**, black; RP25GG**N**, green).

DOUBLE ASSEMBLY FIVE-WAY® BINDING POSTS

For use on instrument and equipment panels requiring binding posts that mount on ¾" centers. Rugged, self-contained assemblies; more accurate, faster and simpler usage than two individual binding posts. Fixed-panel-insulator of low-loss Lexan* plastic molded over brass cores frozen to shafts. Shoulders are raised for firm seating in mounting holes. Sliding panel mounting insulator of Lexan* plastic molded over brass cores; seats securely in mounting holes. All brass parts are gold plated. Rated for current carrying capacity of 30 amps, 1000 V working. Mount in any panel ⅛"-¼" thk. High impact strength from −100° F to +275° F; ductility rather than brittleness under impact. Available in color code combination of black and red.



BP30-2BR

Superior Type BP30-2BR—Net Each.....**$3.05**

Superior Type BP-21-2BR (Miniature Fluted Nut)—Net Each.....**$2.90**

*Registered GE trademark.

5-WAY™ TEST PROBE



For test connections to printed circuit boards and other electronic components. Makes connections by plugging into matching terminal No. 207146-001-JB, by hooking onto component leads or IC package pins or by locking tip in extended position for touch contact. Also plugs into any terminal with 0.08" (2.03mm) dia. receptacle. Conductor tip is beryllium copper. Insulating parts are durable nylon plastic. When ordering, specify color by suffix: **B**-black; **R**-red; **W**-white; **BL**-blue; **GN**-green; or **Y**-yellow.

Superior Type P5 Test Probe—Net Each.....**$2.40**

Superior Type 207146-001-JB Receptacle—Net Each....**$0.07**

WE GUARANTEE FAST SERVICE FROM OUR COMPLETE AND UP-TO-DATE STOCKS. ASK ABOUT ANY NEW OR UNLISTED ITEMS ALSO AVAILABLE FOR IMMEDIATE DELIVERY.

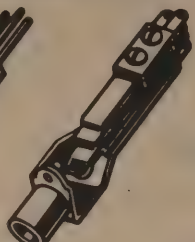
SWITCHCRAFT® INC. Phone Jacks and Jack Covers












Right Angle Hi-D Jax


Hi-D Jax®

"EXTENSION JAX" CABLE EXTENSION JACKS

ıdard ¼", 2- and 3-cond. extension phone jacks with solde or screw terminals. Size, 1¼" O.D. x 2½" long, except Nos and 131, ½" O.D. x 2½" long. Black handles are durable tic; shielded handles are bright nickel-plated brass.

rt	Fig.	Cond.	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
WITH BLACK PLASTIC HANDLE								
	A	2	Screw	$2.08	$1.56	$1.43	$1.30	$1.04
	A	2	Solder	1.80	1.35	1.24	1.13	.90
	A	3	Screw	2.92	2.19	2.01	1.83	1.46
30	A	3	Screw	3.44	2.58	2.37	2.15	1.72
	A	3	Solder	2.36	1.77	1.62	1.48	1.18
WITH SHIELDED HANDLE								
	B	2	Screw	$2.64	$1.98	$1.82	$1.65	$1.32
	C	2	Solder	2.72	2.04	1.87	1.70	1.36
	B	2	Solder	2.88	2.16	1.98	1.80	1.44
	B	2	Solder	2.36	1.77	1.62	1.48	1.18
28	B	2	Solder	2.60	1.95	1.79	1.63	1.30
	C	3	Solder	3.44	2.58	2.37	2.15	1.72
0	B	3	Screw	3.32	2.49	2.28	2.08	1.66
230	B	3	Screw	4.12	3.09	2.83	2.58	2.06
8	B	3	Screw	3.12	2.34	2.15	1.95	1.56

"MT-JAX" MILITARY TELEPHONE JACKS

ng frame, telephone switchboard jacks designed for high ality communication and military equipment. Springs are of a cial nickel silver alloy with welded crossbar palladium contacts. " frame design, Fig. D, has side mounting ear; "C" frame sign, Fig. E has top mtg. ear. Jacks have solder lugs, except W efix indicates wire-wrap lugs.

Part No.*	Fig.	Conds.	Schematic No.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
T-331	D	2	I	$1.80	$1.35	$1.24	$1.13	$0.90
T-332A	D	2	III	2.12	1.59	1.46	1.33	1.06
T-332B	D	3	IV	2.12	1.59	1.46	1.33	1.06
MT-332B	D	3	IV	2.32	1.74	1.60	1.45	1.16
T-332C	D	2	XVIII	2.44	1.83	1.68	1.53	1.22
T-334B	D	3	XII	2.48	1.86	1.71	1.55	1.24
MT-334B	D	3	XII	2.84	2.13	1.95	1.78	1.42
T-336C	D	3	XXII	3.60	2.70	2.48	2.25	1.80
T-342B	D	3	IV	2.44	1.83	1.68	1.53	1.22

For "C" frame type (Fig. E), add prefix "C" to part number.

"TWIN-JAX" MILITARY TWIN TELEPHONE JACKS

milar in design to "MT-Jax", except frame is double width with vo mounting ears on 1¾" centers; dual bushings are ⅜" on nters. Has two 3-cond. jacks interconnected; mates with No. 32 plug.

Part No.	Terms.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
MT-389	Solder	$7.04	$5.28	$4.84	$4.40	$3.52
WMT-389	Wire-wrap	7.36	5.52	5.06	4.60	3.68

JACK COVER

Handy, rugged, spring loaded phone jack cover. Covers jack opening when plug is removed. Protects against dust and moisture. Used with standard ¾"-32 threaded bushing type phone jacks.

Part No.	Color	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
510	Olive drab	$2.84	$2.13	$1.95	$1.78	$1.42
512	Nickel	2.72	2.04	1.87	1.70	1.36
515	Black	2.84	2.13	1.95	1.78	1.42
520	Navy gray	2.84	2.13	1.95	1.78	1.42

Hi-D Jax ENCLOSED PHONE JACKS

Small compact phone jacks mate with standard ¼" phone plugs. Molded box body protects silver-plated, nickel silver springs. Low contact resistance and electrical leakage with little capacity between springs. Mount on ⅝" centers in ⅛" dia. hole in panels up to ⅜" thick. Part Nos. with "N" prefix have threaded nylon bushing to insulate jack from panel. Part Nos. with "M" prefix are designed and adjusted to mate with telephone and MIL-STD plugs. Tip and ring (3-cond.) springs are gold plated. Contacts are welded crossbar palladium for stable, low-resistance connections. No. 114B stereo Hi-D jack switches out speakers when connecting stereo headphones. Dual NC switch contacts open both circuits independently when 3-cond. plug is inserted.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPES							
111	I	250	$0.76	$0.57	$0.523	$0.475	$0.38
111PC	I	250	.76	.57	.523	.475	.38
L-111	I	250	.92	.69	.633	.575	.46
N-111	I	250	.92	.69	.633	.575	.46
NL-111	I	250	1.00	.75	.688	.625	.50
112A	III	250	.80	.60	.55	.50	.40
112APC	III	250	.80	.60	.55	.50	.40
L-112A	III	250	1.00	.75	.688	.625	.50
N-112A	III	250	1.00	.75	.688	.625	.50
NL-112A	III	250	1.08	.81	.743	.675	.54
113	V	250	1.36	1.02	.935	.85	.68
113D	VI	250	1.36	1.02	.935	.85	.68
113E	IX	250	1.36	1.02	.935	.85	.68
THREE-CONDUCTOR TYPES							
112B	IV	267	$0.84	$0.63	$0.578	$0.525	$0.42
L-112B	IV	267	1.08	.81	.743	.675	.54
M-112B	IV	482	1.32	.99	.908	.825	.66
N-112B	IV	267	1.08	.81	.743	.675	.54
113B	VII	267	1.12	.84	.77	.70	.56
114B	XII	267	1.24	.93	.853	.775	.62
L-114B	XII	267	1.36	1.02	.935	.85	.68
M-114B	XII	267	1.76	1.32	1.21	1.10	.88
N-114B	XII	267	1.36	1.02	.935	.85	.68

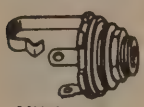
RIGHT ANGLE Hi-D Jax ENCLOSED PHONE JACKS

Compact, fully enclosed phone jacks have right-angle design which permits space saving mounting on PC boards in a wide variety of commercial applications. Jack bushings mounts through ⅜" diam. hole in panels or chassis up to .141" thick; terminals mount in PC boards up to ⅛" thick. Supplied with washer and locknut.

Part No.	No. Conds.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99
RN-111PC	2	I	250	$0.84	$0.63	$0.578	$0.525
RN-112APC	2	III	250	.88	.66	.605	.55
RN-112BPC	3	IV	267	.92	.69	.633	.575
RN-113BPC	3	VII	267	1.24	.93	.853	.775
RN-114BPC	3	XII	267	1.24	.93	.853	.775

Keep this catalog on your desk!
It has up-to-date information on all your electronics requirements.

SWITCHCRAFT® INC. Phone Jacks

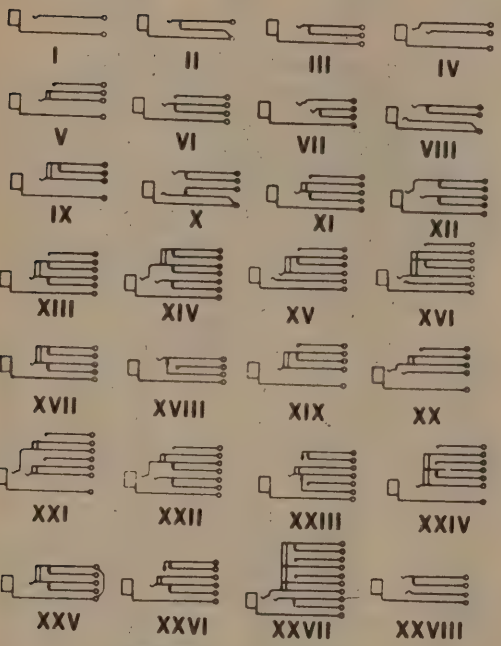

Littel-Jax®


Tini-Jax®


"TINI-EXTENSION" JAX


Micro-Jax®


"TINI-D JAX"



Schematics do not necessarily indicate relative solder lug positions.

Littel-Jax® PHONE JACKS

Economical phone jacks with notched insulating washers to mechanically interlock springs and solder lugs. "V" bend in spring tip holds mating plug firmly. Mount in ¾" dia. hole in panels up to 5/32" thick, except L-11 and L-12A mount in panels up to ¼" thick. Nos. C-11 and C-12B have locating pins (non-turn devices). No. S-11 similar to No. 11 except .210" I.D. sleeve. No. 14B stereo Littel-Jax switches out speakers when connecting stereo headphones. Dual NC switch contacts open both stereo circuits independently when 3-cond. plug is inserted.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPES							
11	I	250	$0.76	$0.57	$0.523	$0.475	$0.38
C-11*	I	440	1.16	.87	.798	.725	.58
L-11	I	250	.84	.63	.578	.525	.42
S-11	I	S-250	.80	.60	.55	.50	.40
12A	III	250	.80	.60	.55	.50	.40
C-12A*	III	440	1.32	.99	.908	.825	.66
L-12A	III	250	.92	.69	.633	.575	.46
S-12A	III	480	.92	.69	.633	.575	.46
PC-12A	III	250	.92	.69	.633	.575	.46
13	V	250	1.56	1.17	1.07	.975	.78
13A	VI	250	1.56	1.17	1.07	.975	.78
13E	IX	250	1.56	1.17	1.07	.975	.78
THREE-CONDUCTOR TYPES							
12B	IV	267	$0.92	$0.69	$0.633	$0.575	$0.46
C-12B*	IV	480	1.40	1.05	.963	.875	.70
L-12B	IV	267	1.28	.96	.88	.80	.64
S-12B	IV	480	1.28	.96	.88	.80	.64
13B	VIII	267	1.36	1.02	.935	.85	.68
S-13B	VII	480	1.80	1.35	1.24	1.13	.90
14B	XII	267	1.84	1.38	1.27	1.15	.92

*Per MIL-J-641.

Tini-Jax® MINIATURE PHONE JACKS

Miniature 2-cond. phone jacks approximately ⅓ the si Littel-Jax; otherwise similar in construction. Mount in ¼" hole in panels up to ⅛" thick. No. 43A has a unique spring d that requires a pear shaped tip, such as Tini-Plug® No. 750.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	1 2
41	I	750	$0.58	$0.51	$0.468	$0.425	$0
42A	III	750	.72	.54	.495	.45	
43A	VI	750	1.12	.84	.77	.70	

"TINI-EXTENSION JAX"

An extension or cable jack to mate with Tini-Plug. Two ductor. Metal housing for ruggedness and electrical shield Solder lug terminals.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	1 2
125	.....	750	$2.16	$1.62	$1.49	$1.35	$1.

Micro-Jax SUBMINIATURE PHONE JACK

Precision jack for compact equipment. Only 1/25 the size standard phone jacks. Two-cond., single closed circuit. Sil plated nickel silver springs. Internally keyed nylon insulat interlocks springs and solder lugs to eliminate shorts. Mou in .190" dia. hole in panels up to 5/32" thick.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100 24
TR-2A	III	850, 880	$0.92	$0.69	$0.633	$0.575	$0.4

"TINI-D JAX" MINIATURE ENCLOSED PHONE JAC

Small, completely enclosed, molded phone jack mates with Ti Plug No. 750, etc. Phenolic housing protects the bifurcat beryllium copper springs. Has threaded bushing for mounting ⅜" centers in ¼" dia. hole in panels up to ⅛" thick. Depth behi panel, 7/16". Terminals snap into PC boards.

Part No.	Schematic No.	Typ. Mating Plug	Net Each, Lots of 1-9	10-24	25-49	50-99	100- 249
142A	III	750	$0.84	$0.63	$0.578	$0.525	$0.4

"THICK-PANEL JAX"

Phone jacks with long bushings. Mount in 15/32" dia. hole in pane up to 1¼" thick. Solder lug terminals. Ideal for use with micr phones—extra shielding reduces audio hum. Mate with standar ¼" phone plugs. Nickel-plated brass.

Part No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100- 249
151	2 conductor	$2.48	$1.86	$1.71	$1.55	$1.24
152B	3 conductor	2.72	2.04	1.87	1.70	1.36

OUR STOCKS ARE COMPLETE AND UP TO DATE. WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED ITEMS.



MIL-TYPE Littel-Plug® PHONE PLUGS

ttel-Plug phone plugs are made in accordance with MIL-P-642(A) ecifications. One-piece tip rod and one-piece sleeve and plug dy provide internal interlock to prevent shifting of parts. ndles are red or black plastic. All plugs have screw terminals.

rt o.	Fig.	Cond.	MIL Type	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
0♯	....	2	PJ-047B	$2.76	$2.07	$1.90	$1.73	$1.38
5*	....	2	PJ-047R	2.76	2.07	1.90	1.73	1.38
0*	A	2	PJ-054B	2.36	1.77	1.62	1.48	1.18
0*	....	2	PJ-055B	2.40	1.80	1.65	1.50	1.20
5	....	2	PJ-055R	2.40	1.80	1.65	1.50	1.20
0	....	2	PJ-055M	2.76	2.07	1.90	1.73	1.38
0*	B	3	PJ-068	4.84	3.63	3.33	3.03	2.42
2♯	C	3	PJ-051R	5.36	4.02	3.69	3.35	2.68
3*	C	3	PJ-051B	5.36	4.02	3.69	3.35	2.68
0*	....	2	JJ-026	5.16	3.87	3.55	3.23	2.58

Red Handle. ♯Black Handle. ^Extension jack with black handle. ypical mating plug, No. 430.

"FLAT-PLUG" PHONE PLUGS

hese ¼" phone plugs feature flat, space-saving handles. Ideal for pplications where conventional plugs would protrude too far. o. 220 has adapter clips so that standard phone tips can be amped to terminals. Shielded flat plugs Nos. 228 and 238 have ickel-plated steel handles; others have black plastic handles.

Part No.	Fig.	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
220♯	D	Screw	$1.84	$1.38	$1.27	$1.15	$0.92
225*	D	Screw	1.84	1.38	1.27	1.15	.92
227♯	D	Solder	1.40	1.05	.963	.875	.70
228	E	Solder	1.68	1.26	1.16	1.05	.84
230♯^	D	Screw	2.20	1.65	1.51	1.38	1.10
237♯^	D	Solder	2.16	1.62	1.49	1.35	1.08
238^	E	Solder	2.32	1.74	1.60	1.45	1.16

Red handle. ♯Black handle. ^Three conductor type; others are wo conductor.

Littel-Plug PHONE PLUGS

mall size phone plugs fit standard ¼" phone jacks except Nos. -250, S-260 and S-280, .206" dia. sleeve. Plugs with solder erminals have built-in cable clamp. Shielded metal handles are ickel-plated brass; others are plastic, ⅝" long x ½" dia.

Part No.	Fig.	Handle	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPE								
240	F	Black	Screw	$1.28	$0.96	$0.88	$0.80	$0.64
C-240	F	Black	Screw	1.48	1.11	1.02	.925	.74
245	F	Red	Screw	1.28	.96	.88	.80	.64
250	F	Black	Solder	1.24	.93	.853	.775	.62
255	F	Red	Solder	1.24	.93	.853	.775	.62
270	G	Sh'l'd	Screw	1.84	1.38	1.27	1.15	.92
C-270	G	Sh'l'd	Screw	2.08	1.56	1.43	1.30	1.04
280	G	Sh'l'd	Solder	1.80	1.35	1.24	1.13	.90
S-250	F	Black	Solder	1.28	.96	.88	.80	.64
S-280	G	Sh'l'd	Solder	1.80	1.35	1.24	1.13	.90
THREE-CONDUCTOR TYPE								
260	F	Black	Screw	$2.08	$1.56	$1.43	$1.30	$1.04
267	F	Black	Solder	1.84	1.38	1.27	1.15	.92
269	F	Black	Solder	1.84	1.38	1.27	1.15	.92
290	G	Sh'l'd	Screw	2.36	1.77	1.62	1.48	1.18
297	G	Sh'l'd	Solder	2.24	1.68	1.54	1.40	1.12

STANDARD ¼" PHONE PLUGS

Available with black phenolic or nickel-plated brass handles.

Part No.	Fig.	Handle Type	Handle Size L. x D.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TWO-CONDUCTOR TYPE—SCREW TERMINALS								
40	F	Black	2⅛" x ¾"	$1.68	$1.26	$1.16	$1.05	$0.84
160	H	Sh'l'd	1" x 1⅛"	1.84	1.38	1.27	1.15	.92
70	G	Sh'l'd	1¼" x 2⅛"	2.12	1.59	1.46	1.33	1.06
90	H	Sh'l'd	1¼" x 1"	2.20	1.65	1.51	1.38	1.10
THREE-CONDUCTOR TYPE—SOLDER TERMINALS								
60	F	Black	2⅛" x 1⅛"	$1.96	$1.47	$1.35	$1.23	$0.98
190A	G	Sh'l'd	1¼" x 2⅛"	3.20	2.40	2.20	2.00	1.60
190	G	Sh'l'd	2⅛" x 1⅛"	2.52	1.89	1.73	1.58	1.26
350*	F	Black	⅛" x 2⅛"	1.08	.81	.743	.675	.54

*Solder lugs.

Tini-Plug MINIATURE PHONE PLUGS

Miniature 2-cond. phone plugs for use with Tini-Jax; only ⅓ the size of standard phone plugs. Handles, 1⅝" overall length. No. 780 has shielded nickel-plated brass handle; others have colored plastic handles.

Part No.	Fig.	Handle	Term.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
740	I	Black	Screw	$1.16	$0.87	$0.798	$0.725	$0.58
745	I	Red	Screw	1.16	.87	.798	.725	.58
750	I	Black	Solder	1.12	.84	.77	.70	.56
755	I	Red	Solder	1.12	.84	.77	.70	.56
770	I	Metal	Screw	1.64	1.23	1.13	1.03	.82
780	I	Metal	Solder	1.56	1.17	1.07	.975	.78

Micro-Plug SUBMINIATURE PHONE PLUGS

Ultra-miniature, 2-cond. phone plugs only 1¼" long, ¼" O.D., .097" sleeve. Mate with No. TR-2A. Screw-on handles in black, red, or natural anodized aluminum. All plugs have cable clamps.

Part No.	Fig.	Handle	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
850	J	Black	$1.08	$0.81	$0.743	$0.675	$0.54
880	J	Natural	1.08	.81	.743	.675	.54

"LUG-PLUG" PHONE PLUG

Low cost, 2-cond. phone plug fits all ¼" jacks. Solder lug terminals and phenolic handle (No. 350) or 1" lg. shielded handle (No. 380).

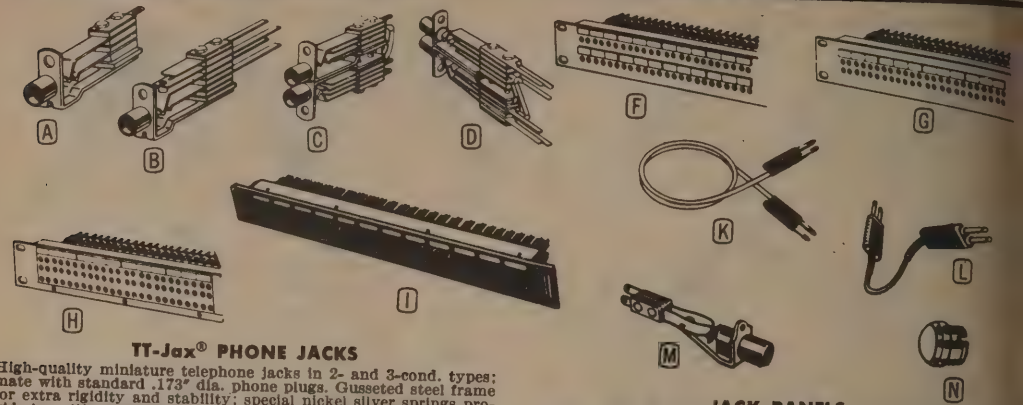
350	F	Black	$1.08	$0.81	$0.743	$0.675	$0.54
380	....	Metal	1.32	.99	.908	.825	.66

MILITARY TYPE "TWIN-PLUG"

Meet exact military and industrial requirements. "Twin-Plug" sleeves spaced ⅝" center to center with self-aligning feature. No. 411 has two independent 2-cond. plugs in black plastic handle.

Part No.	Fig.	MIL Type	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
411	K	PJ-327	$7.04	$5.28	$4.84	$4.40	$3.52

SWITCHCRAFT® PHONE JACKS, JACK PANELS AND PATCH CORDS



TT-Jax® PHONE JACKS

High-quality miniature telephone jacks in 2- and 3-cond. types; mate with standard .173″ dia. phone plugs. Gusseted steel frame for extra rigidity and stability; special nickel silver springs provide long life; welded crossbar palladium contacts. Require only 2⅛″ depth behind panel; (2¹¹⁄₁₆″ for wire-wrap style); mount on ⅛″ centers in a ¼″ dia. hole in panels up to ⅜″ thick. Both TT-30 and WTT-30 jacks can be mounted in combination or interchangeably with "TT-Switch" and "TT Lamp-Jax" on Series 1600 panels.

Part No.	Fig.	Schematic No.	Cond.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
WITH SOLDER LUGS								
TT-32B	A	IV	3	$1.68	$1.26	$1.16	$1.05	$0.84
TT-34B	A	XII	3	2.12	1.59	1.46	1.33	1.06
WITH WIRE-WRAP TERMINALS								
WTT-31	B	I	2	$1.52	$1.14	$1.05	$0.95	$0.76
WTT-32A	B	III	2	1.92	1.44	1.32	1.20	.96
WTT-32B	B	IV	3	1.88	1.41	1.29	1.18	.94
WTT-34B	B	XII	3	2.16	1.62	1.49	1.35	1.08

"TT TWIN JAX"

Similar in design to Series TT-30 and WTT-30 single jacks, except that two frames are welded together back-to-back with mounting holes on ¹³⁄₁₆″ centers and bushings on ⅝″ centers. Designed to be mounted on Series 1700 jack panels; mate with "TT" patch cords in Series TT-120, TT-160, TT-740 and TT-860. No. TT-89 has solder lugs; WTT-89 has wire-wrap terminals.

Part No.	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TT-89	C	$5.96	$4.47	$4.10	$3.73	$2.98
WTT-89	D	6.12	4.59	4.21	3.83	3.06

"TT" TINI-TELEPHONE JACK PANELS

Jack panels provide up to 156 jacks in standard panels. Constructed of black anodized, extruded aluminum with an extra wide flange for rigidity. **Series 1600:** a double row panel for 96 TT-Jax in four molded plastic inserts. **Series 1700:** a double row panel for 48 "TT Twin-Jax" in two molded plastic inserts. **Series B1700:** same as Series 1700 except accommodates 48 "Tri-Jax" in two inserts. All series have plastic covered designation strip.

Part No.	Fig.	Rows	No. of Jacks	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
1600	F	2	96*	$ 37.52	$ 28.14	$ 25.80	$ 23.45	$ 18.75
1634B	F	2	96	220.84	165.63	151.83	138.03	110.42
1700	G	2	48*	39.16	29.37	26.92	24.48	19.58
B1700	H	3	48*	44.72	33.54	30.75	27.95	22.36
B1795	H	3	48	347.56	260.67	238.95	217.23	173.78

*Supplied less jacks.

"TT" PATCH CORDS

"Tini-Telephone" patch cords with 2- and 3-cond. single and twin plugs. Black handles, braided shield, black nylon cord. .173″ dia. fingers. Mate with TT-Jax.

Series 720: 2-cond. shielded cord with 2-cond. plug on each end. Shield is connected to sleeves. One conductor is wired tip to tip. Other conductor is clipped off.

Series 740: 2-cond. shielded cord with 3-cond. plug on each end. Shield is connected to sleeves. Conductors are wired tip to tip and ring to ring.

Part No.	Fig.	Length	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TT-726	K	3 ft.	$16.92	$12.69	$11.63	$10.58	$ 8.46
TT-741	K	6 in.	16.44	12.33	11.30	10.28	8.22
TT-744	K	2 ft.	18.80	14.10	12.93	11.75	9.40
TT-747	K	4 ft.	21.60	16.20	14.85	13.50	10.80
TT-749	K	6 ft.	24.00	18.00	16.50	15.00	12.00

JACK PANELS

Rugged, heavy duty standard size jack panels for switching, distribution and control of audio signals in broadcasting stations theaters, PA systems, etc. Black phenolic panels reinforced with steel for rigidity. Mounting brackets slotted to fit all standard 19″ relay racks. Panel includes plastic-covered designation stripe.

Part No.	Fig.	Jacks No. of	Jacks Type of	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
1312A	I	24	MT-332A	$58.92	$44.19	$40.51	$36.83	$29.46
2512A	I	48	MT-332A	108.52	81.39	74.61	67.83	54.26
2712A	I	52	MT-332A	112.64	84.48	77.44	70.40	56.32

SERIES JP MODULAR JACK PANELS

Modular jack panel concept featuring assemblies (up to 4 jacks) installed from rear and fastened from the front. Accepts all standard telephone jack panel components. Panels are black anodized aluminum, designation inserts (2 supplied) are black molded plastic. Mounting screws are supplied. Type JP03 and 04 are double row panels with insert openings on ⅝″ centers in quads, and ¾″ opening between adjacent quads. JP03 is 19″ wide and mounts 48 MT-Jax or 24 Twin-Jax. JP04 is 23″ wide and mounts 56 components. Type JP09 is a double row panel with openings on ⅝″ centers, measures 19″ wide and mounts 52 MT-Jax or 26 Twin-Jax. All are supplied with 5⅜″ long stand-off legs.

Part No.	Jacks No.	Jacks Type	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
JP03-2000	0	.....	$ 39.36	$ 29.52	$27.06	$24.60	$19.68
JP03-2S32A	48	MT-332A	00.00	00.00	00.00	00.00	00.00
JP03-2S32B	48	MT-332B	125.04	93.78	85.97	78.15	62.52
JP03-2S34B	48	MT-334B	142.76	107.07	98.15	89.23	71.38
JP04-2000	0	.....	44.28	33.21	30.44	27.68	22.14
JP04-2S32A	56	MT-332A	142.76	107.07	98.15	89.23	71.38
JP04-2S32B	56	MT-332B	142.76	107.07	98.15	89.23	71.38
JP04-2S34B	56	MT-334B	163.40	122.55	112.34	102.13	81.70
JP09-2000	0	.....	49.20	36.90	33.83	30.75	24.60
JP09-2S32A	52	MT-332A	142.76	107.07	98.15	89.23	71.38
JP09-2S32B	52	MT-332B	142.76	107.07	98.15	89.23	71.38
JP09-2S34B	52	MT-334B	162.40	121.80	111.65	101.50	81.20

PATCH CORD SETS

All cords are constructed of bronze tinsel conductors, insulated and shielded, with a heavy black nylon braid overall. Fit all standard ¼″ I.D. sleeve telephone jacks.

Series 17Q: 2-cond. cords with No. 413, 2-cond. "Twin-Plug" on each end. Shields grounded both ends.

Series 18Q: 2-cond. cords with No. 482, 3-cond. plug on each end. Shields grounded both ends.

Series 19Q: Single-conductor cords with No. 420, 2-cond. plug on each end. Shields grounded both ends.

Part No.	Fig.	Length	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
17QD17	L	2 ft.	$16.20	$12.15	$11.14	$10.13	$8.10
18QA18	L	6 in.	16.20	12.15	11.14	10.13	8.10
18QD18	L	2 ft.	17.64	13.23	12.13	11.03	8.82
18QF18	L	3 ft.	18.32	13.74	12.60	11.45	9.16
19QD19	L	2 ft.	9.56	7.17	6.57	5.98	4.78
19QF19	L	3 ft.	10.20	7.65	7.01	6.38	5.10

"LAMP-JAX" AND LENS CAPS

Lamp-Jax" lamp jack, No. LT-47, fits jack panels which accept ¼″ I.D. bushing jacks. Provides highly visible, lighted panel indication. Uses standard T-2 telephone slide-base incandescent lamps. Nylon lamp housing is insulated from frame. Lens cap, No. LT-50-01, is red translucent plastic. Snap-in mounting.

Part No.	Description	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
LT-47	Lamp jack	M	$1.88	$1.41	$1.29	$1.18	$0.94
LT-50-01	Lens cap	N	.56	.42	.385	.35	.28

"QG" QUICK-GROUND AUDIO CONNECTORS

nectors feature a separate "Ground-Terminal" which is elec-ally integral with the connector shell. Ground continuity be-en mating plugs is automatically accomplished through the usive "Ground Contactors." Possible loss of insert screw is inated by new "Captive Design" insert screw. Socket and pin mblies utilize "wedge-action" to insure firm, reliable posi-ing in connector shell. The Q-G series audio connectors offer to 8-contact versatility when the ground terminal is used. be used interchangeably with Switchcraft QGP Series and er connectors with similar pin/contact arrangements. **F** and **M** Part Numbers indicate male pins or female contacts. Male gs and receptacles have one-piece pin insert assembly easily ovable for soldering, polarizing groove and brass pins with er plating. Female plugs have high-impact plastic socket rt, molded latchlock and keyed neoprene relief bushing. ix **L** indicates connectors with strain relief accepting cables n ¼" to .328" diam.; others accept cables up to ¼" diam. ix **B** indicates connectors with Black Velvet oxide finish; others e satin nickel finish.

A*F AND A*M CORD PLUGS

te with A*M and other connectors with similar contact ar-gements. Overall length, 3½"; diam., ¾".

Part Number	Fig.	No. of Contacts	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
A3F	A	3	$3.20	$2.40	$2.20	$2.20	$1.60
A3M	B	3	2.76	2.07	1.90	1.73	1.38
A3FL	A	3	3.40	2.55	2.34	2.13	1.70
A3ML	B	3	2.96	2.22	2.04	1.85	1.48
A3FB	A	3	3.60	2.70	2.48	2.25	1.80
A3MB	B	3	3.24	2.43	2.23	2.03	1.62
A4F	A	4	4.00	3.00	2.75	2.50	2.00
A4M	B	4	2.96	2.22	2.04	1.85	1.48
A4FL	A	4	4.24	3.18	2.92	2.65	2.12
A4ML	B	4	3.16	2.37	2.17	1.98	1.58
A5F	A	5	6.56	4.92	4.51	4.10	3.28
A5M	B	5	5.24	3.93	3.60	3.28	2.62
A5FL	A	5	6.76	5.07	4.65	4.23	3.38
A5ML	B	5	5.56	4.17	3.82	3.48	2.78
A6F	A	6	7.52	5.64	5.17	4.70	3.76
A6M	B	6	5.92	4.44	4.07	3.70	2.96
A6FL	A	6	7.76	5.82	5.34	4.85	3.88
A6ML	B	6	6.12	4.59	4.21	3.83	3.06
A7F	A	7	8.40	6.30	5.78	5.25	4.20
A7M	B	7	6.52	4.89	4.48	4.08	3.26

R*F AND R*M PLUGS

ght angle cord plug for minimum-space connecting.

R3F	C	3	$ 7.24	$5.43	$4.98	$4.53	$3.62
R3M	D	3	6.68	5.01	4.59	4.18	3.34
R3FL	C	3	7.36	5.52	5.06	4.60	3.68
R3ML	D	3	6.68	5.16	4.73	4.30	3.44
R4F	C	4	8.16	6.12	5.61	5.10	4.08
R4M	D	4	6.68	5.16	4.73	4.30	3.44
R4FL	C	4	8.36	6.27	5.75	5.23	4.18
R4ML	D	4	7.04	5.28	4.84	4.40	3.52
R5F	C	5	11.16	8.37	7.67	6.98	5.58
R5M	D	5	9.80	7.35	6.74	6.13	4.90
R5FL	C	5	11.28	8.46	7.76	7.05	5.64
R5ML	D	5	10.04	7.53	6.90	6.28	5.02
R6F	C	6	12.12	9.09	8.33	7.58	6.06
R7F	C	7	13.04	9.78	8.97	8.15	6.52
R7M	D	7	11.08	8.31	7.62	6.93	5.54

T*F PLUG WITH ON-OFF SWITCH

ord plug connects directly to microphone. Built-in sub-minia-re slide switch permits on-off control of audio. Switch provides -line SPDT switching—locking for Model T3F or momentary r Model T3FM. Overall length, 3⁶¹⁄₆₄", diam., ¾".

T3F	E	3	$ 9.80	$7.35	$6.74	$6.13	$4.90
T3FM	E	3	10.12	7.59	6.96	6.33	5.06

P*M PLUGS

emale plug mounts directly to gooseneck or mike stem. Length, ¼", diam., ¼"; has ⅜-27NS-2B internal thread ⅝" deep. Male ug mounts directly on bottom of gooseneck stem and plugs into eceptacle on console, lectern, podium, etc. Length, 1¹³⁄₁₆", diam., ", has ⅜-27NS-2B external thread.

P3F	F	3	$4.08	$3.06	$2.81	$2.55	$2.04
P3M	G	3	2.16	1.62	1.49	1.35	1.08
P4F	F	4	4.92	3.69	3.38	3.08	2.46
P4M	G	4	2.92	2.19	2.01	1.93	1.46
P5M	G	5	3.40	2.55	2.34	2.13	1.70

N*MS SHORTING PLUG

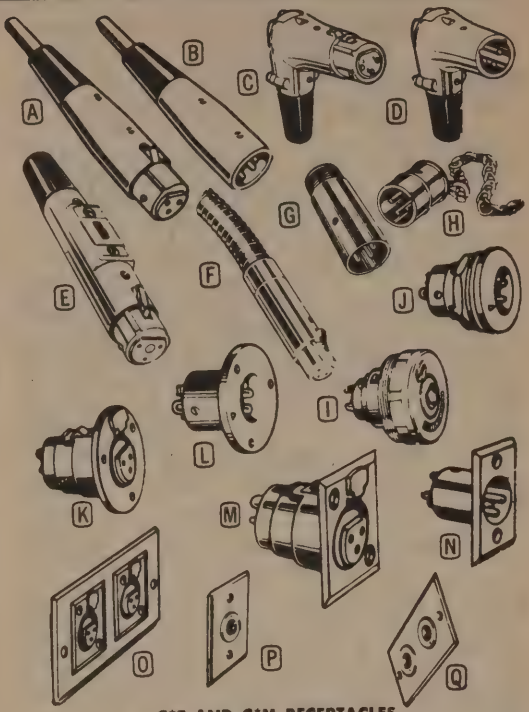
Male shorting plug connects to female receptacle, shorts out nicrophone input circuit, provides physical protection. Length, .39", diam. 0.77".

N3MS	H	3	$5.32	$3.99	$3.66	$3.33	$2.66

B*F AND B*M RECEPTACLES

Male receptacles mount in panels up to ¼" thick. Flange diam. ⅞". Female receptacles mount with 1¼"-18 spanner nut in panels up to ⅛" thick. Flange diam. 1⅞". 1⅞" overall.

B3F	I	3	$ 6.56	$4.92	$4.51	$4.10	$3.28
B3M	J	3	3.96	2.97	2.72	2.48	1.98
B3FB	I	3	7.68	5.76	5.28	4.80	3.84
B3MB	J	3	4.56	3.42	3.14	2.85	2.28
B4F	I	4	6.88	5.16	4.73	4.30	3.44
B4M	J	4	4.08	3.06	2.81	2.55	2.04
B5F	I	5	9.52	7.14	6.55	5.95	4.76
B5M	J	5	6.72	5.04	4.62	4.20	3.36
B6F	I	6	10.48	7.86	7.21	6.55	5.24
B6M	J	6	7.32	5.49	5.03	4.58	3.66
B7F	I	7	11.32	8.49	7.78	7.08	5.66
B7M	J	7	7.96	5.97	5.47	4.98	3.98



C*F AND C*M RECEPTACLES

For panel or chassis mounting with four .140" diam. holes in flange. Female has socket insert push-type latch locking device. Both measure 1⁷⁄₁₆" diam.; female measures 1⁷⁄₆₄" overall, male measures 1¹³⁄₁₆" overall.

Part Number	Fig.	No. of Contacts	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
C3F	K	3	$4.24	$3.18	$2.92	$2.65	$2.12
C3M	L	3	2.12	1.59	1.46	1.33	1.06
C4F	K	4	4.36	3.27	3.00	2.73	2.18
C4M	L	4	2.48	1.86	1.71	1.55	1.24
C5F	K	5	6.88	5.16	4.73	4.30	3.44
C5M	L	5	4.92	3.69	3.38	3.08	2.46
C6F	K	6	7.80	5.85	5.36	4.88	3.90
C6M	L	6	5.56	4.17	3.82	3.48	2.78
C7F	K	7	8.72	6.54	6.00	5.45	4.36
C7M	L	7	6.16	4.62	4.24	3.85	3.08

D*F AND D*M RECEPTACLES

Rectangular flange receptacles permits close mounting on crowded panels or chassis. Flange on male units measures ⅞" x 1⁷⁄₁₆"; female flange measures 1⅛" x 1⁷⁄₁₆".

D3F	M	3	$4.32	$3.24	$2.97	$2.70	$2.16
D3M	N	3	2.64	1.98	1.82	1.65	1.32
D3FB	M	3	5.04	3.78	3.47	3.15	2.52
D3MB	N	3	3.28	2.46	2.26	2.05	1.64
D4F	M	4	4.48	3.36	3.08	2.80	2.24
D4M	N	4	2.84	2.13	1.95	1.78	1.42
D5F	M	5	7.00	5.25	4.81	4.38	3.50
D5M	N	5	4.84	3.63	3.33	3.03	2.42
D6F	M	6	7.92	5.94	5.45	4.95	3.96
D6M	N	6	5.40	4.05	3.71	3.38	2.70
D7F	M	7	8.84	6.63	6.08	5.53	4.42
D7M	N	7	6.08	4.56	4.18	3.80	3.04

K*F WALL PLATES

Two-gang wall plates with dual D*F female receptacles. Stainless steel finish; available in brushed brass finish on special order. Flange measures 4½" x 2¼".

K3FS	O	3	$10.08	$7.56	$6.93	$6.30	$5.04
K4FS	O	4	10.84	8.13	7.45	6.78	5.42

G*M TYPE WALL PLATE

Single gang wall plate with a B*M male receptacle fits standard single electrical outlet box. Available in brushed stainless steel as standard or in brushed brass on special order. Size, 4½" h. x 2¾" w.

G3MS	P	3	$5.84	$4.38	$4.02	$3.65	$2.92
G4MS	P	4	7.24	5.43	4.98	4.53	3.62

H*M WALL PLATES

Two-gang wall plates with dual B*M male receptacles. Mounts in standard single switch box. Brushed stainless steel finish; available in brushed brass on special order. Measures 4½" x 2¾".

H3MS	Q	3	$ 9.56	$7.17	$6.57	$5.98	$4.78
H4MS	Q	4	10.32	7.74	7.10	6.45	5.16

LISTING CONTINUED ON FOLLOWING PAGE

"QG" QUICK-GROUND AUDIO CONNECTORS (CONTINUED)

J*F WALL PLATES

Single-gang wall plates with one D*F female receptacle for standard electrical outlet box. Brushed stainless steel finish; available in brushed brass on special order. Measures 4½" x 2¼".

Part Number	Fig.	No. of Contacts	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
J3FS	R	3	$7.16	$5.37	$4.92	$4.48	$3.58
J4FS	R	4	7.40	5.55	5.09	4.63	3.70

S*FM CONNECTOR ADAPTER

Male insert at one end, female insert at other end. Space for circuitry inside. Use as a transformer, attenuator, etc. Measures 4" long. Unwired.

S3FM	S	3	$6.52	$4.89	$4.48	$4.08	$3.26
S4FM	S	4	6.84	5.13	4.70	4.28	3.42

L*M AND M*M MALE ADAPTER RECEPTACLES

Male adapter receptacles mount directly to microphones or other equipment. Model L*M has plain cylindrical shell 47/64" diam. with ¾" collar. Model L*MN has same shell with knurled coupling nut. Model M*M has short cylindrical shell 13/16" long with 13/16"-27 thread.

L3M	T	3	$3.28	$2.46	$2.26	$2.05	$1.64
L3MN	U	3	3.96	2.97	2.72	2.48	1.98
M3M	V	3	3.56	2.67	2.45	2.23	1.78

W*M RECEPTACLE

Right angle male chassis/panel mount receptacle for minimum space connecting applications.

W3M	W	3	$2.32	$1.74	$1.60	$1.45	$1.16

TINI "QG" MINIATURE AUDIO AND GENERAL PURPOSE CONNECTORS

Miniaturized "QG" connectors are ideal for use with slim style, small lavaliere microphones and for miniaturized instrumentation. Shielded or unshielded cable up to .115" diam. may be used; if the flex relief bushing is omitted, Series T*FL and T*ML only, cables up to .17" may be used. Features of the Tini "QG" line include 3, 4 or 5 pins/contacts; full cable clamp and flex relief; "Through-Connector" shielding; latch locking; pin protection; polarized mating; and attractive escutcheons in colors. Plugs and male receptacles are nickel-plated brass; female receptacles are nickel-plated, die-cast zinc. Pins and socket contacts are silver-plated copper alloy.

TA*F AND TA*FL CORD PLUGS

Straight female cord plugs with nickel finish and black plastic parts. Measures .413" diam. x 1.90" long (Series TA*F) or 1.40" long (Series TA*FL).

Part Number	Fig.	No. of Contacts	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TA3F	X	3	$3.72	$2.79	$2.56	$2.33	$1.86
TA3FL	X	3	3.72	2.79	2.56	2.33	1.86
TA4F	X	4	3.88	2.91	2.67	2.43	1.94
TA4FL	X	4	3.88	2.91	2.67	2.43	1.94
TA5F	X	5	5.76	4.32	3.96	3.60	2.88
TA5FL	X	5	5.76	4.32	3.96	3.60	2.88

TA*M AND TA*ML CORD PLUGS

Straight male cord plugs with nickel finish and black plastic parts. Measures .413" diam. x 2.04" long (Series TA*M) or 1.535" long (Series TA*ML).

TA3M	Y	3	$3.36	$2.52	$2.31	$2.10	$1.68
TA3ML	Y	3	3.36	2.52	2.31	2.10	1.68
TA4M	Y	4	3.48	2.61	2.39	2.18	1.74
TA4ML	Y	4	3.48	2.61	2.39	2.18	1.74
TA5M	Y	5	4.64	3.48	3.19	2.90	2.32
TA5ML	Y	5	4.64	3.48	3.19	2.90	2.32

TB*M RECEPTACLES

Male receptacles for chassis/panel mounting. Thin flange permits close (front) mounting on crowded panels. Mounting hardware supplied.

TB3M	Z	3	$3.44	$2.58	$2.37	$2.15	$1.72
TB4M	Z	4	3.60	2.70	2.48	2.25	1.80
TB5M	Z	5	5.76	4.32	3.96	3.60	2.88

TY*F AND TY*FPC RECEPTACLES

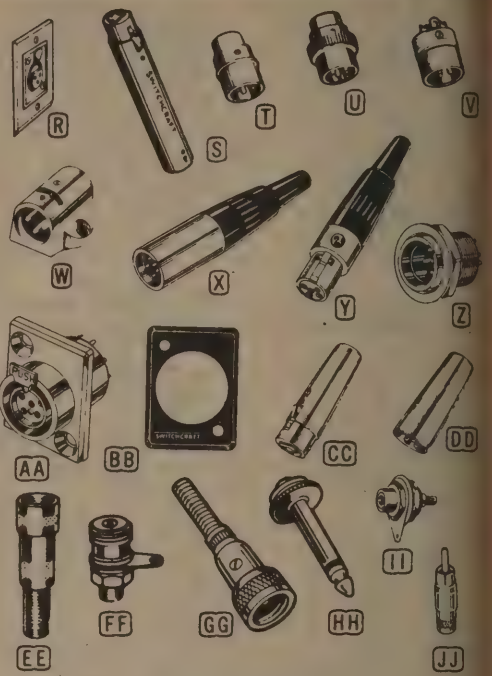
Female receptacles mount in minimum space from front or rear of panels or chassis. All have separate ground lug. Series TY*F has solder lugs; Series TY*FPC has PC terminals.

TY3F	AA	3	$4.24	$3.18	$2.92	$2.65	$2.12
TY3FPC	AA	3	4.24	3.18	2.92	2.65	2.12
TY4F	AA	4	4.40	3.30	3.03	2.75	2.20
TY4FPC	AA	4	4.40	3.30	3.03	2.75	2.20
TY5F	AA	5	6.12	4.59	4.21	3.83	3.06
TY5FPC	AA	5	6.12	4.59	4.21	3.83	3.06

TYEF ECUTCHEONS

Colorful escutcheons for use with TY*F and TY*FPC receptacles for coding or quick recognition. For rear mount receptacles only.

Part Number	Color	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TYEF-02	Black	BB	$0.40	$0.30	$0.275	$0.25	$0.20
TYEF-04	Blue	BB	.40	.30	.275	.25	.20



TA ADAPTERS

Adapt Tini "QG" connectors to mate with standard size "QG" or QGP connectors.

Part Number	Tini "QG" End	"QG" End	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
TA-01	TA3F	A3M	CC	$5.80	$4.35	$3.99	$3.63	$2.90
TA-02	TA4F	A4M	CC	6.96	5.22	4.79	4.35	3.48
TA-03	TA5F	A5M	CC	7.48	5.61	5.14	4.68	3.74
TA-04	TA3M	A3F	DD	5.84	4.38	4.02	3.65	2.92
TA-05	TA4M	A4F	DD	7.04	5.28	4.84	4.40	3.52
TA-06	TA5M	A5F	DD	7.60	5.70	5.23	4.75	3.80

"MINI-CON" MINIATURE CONNECTORS

Miniature microphone-type connectors used with compact audio equipment, lapel microphones, musical instruments, etc. About ½ the size of standard microphone connectors. Accepts single conductor shielded cables up to 3/16" O.D. Nickel-plated brass bodies. Coupling ring on 5501F removable for quick change of female to male type. Cable braid and spring clamped to body by hollow point screw. Type 5501MP mounts on back side of panel in 3/16" hole.

Part Number	Fig.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
5501F	EE	Female, cord	$1.00	$0.75	$0.688	$0.625	$0.50
5501MP	FF	Male, panel	.80	.60	.55	.50	.40

MICROPHONE CONNECTORS

Standard connectors with 5/8"-27 threads. Designed for use with single conductor cables up to 3/32" O.D. Coupling ring on 2501F removable for quick change of female to male type. Spring and cable braid clamped by hollow point screw. No. 44 adapts No. 2501F to fit standard 2-cond. phone jack. No. 2501MP mounts in .385" dia. hole.

2501F	GG	Female, cord	$1.08	$0.81	$0.743	$0.675	$0.54
44	HH	Adapter	.96	.72	.66	.60	.48
2501MP	....	Panel	.80	.60	.55	.50	.40
2501MPC*	....	Panel	1.04	.78	.715	.65	.52

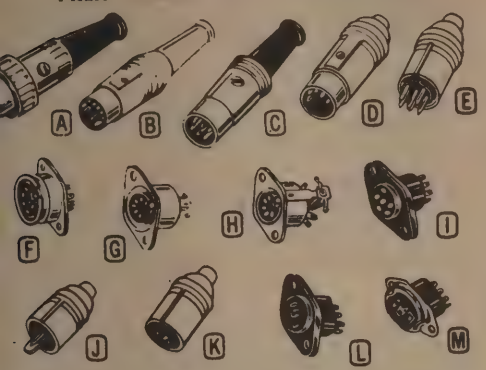
*Closed-circuit type.

RF JACKS AND PLUGS

Standard phono plugs and jacks with nylon insulation for use in radio-frequency applications. Provide maximum insulation resistance. No. 3505F mounts from front in panels up to 1/16" thick. No. 3507 has 13/32" O.D. shielded, screw-on handle with cable clamp.

3505F	II	Chassis jack	$0.80	$0.60	$0.55	$0.50	$0.40
3507	JJ	Plug	1.04	.78	.715	.65	.52

"PREH" SERIES AUDIO CONNECTORS



omplete low-cost series of miniature audio connectors that vides exact replacements for plugs and receptacles used on t foreign-built tape recorders, radios and dictation equipment. ts have bright, nickel-plated shells and plastic snap-on shells. -ring coupling, silver-plated contact pins, automatic friction pling for low mechanical interference noise, automatic ground- and polarization provisions. Positioning "Ground Key-Rib" "Ground Contact"—electrically integral with the connector ll—is provided in each plug and receptacle (except those with stic housings or shells) to ground or shield the connector shell.

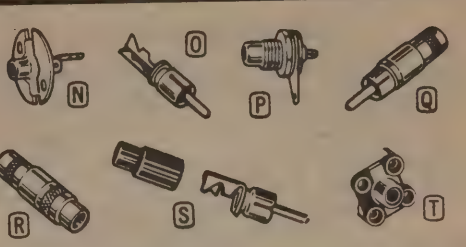
Part Number†	Body Fig.	Pin or Contact Ident.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
STRAIGHT CORD PLUGS WITH 30° LOCK RING							
3CL3M	A	1	$4.32	$3.24	$2.97	$2.70	$2.16
3CL5M	A	2	5.16	3.87	3.55	3.23	2.58
3CL4M	A	3	4.72	3.54	3.25	2.95	2.36
2CL5M	A	4	5.16	3.87	3.55	3.23	2.58
STRAIGHT CORD PLUGS WITH SHIELDED BARREL							
3GM5M	B	5	$2.04	$1.53	$1.40	$1.28	$1.02
3GM7M	B	7	2.36	1.77	1.62	1.48	1.18
STRAIGHT CORD PLUGS WITH EXTENDED BARREL							
3BL5M	C	5	$2.64	$1.98	$1.82	$1.65	$1.32
2BL6M	C	6	2.76	2.07	1.90	1.73	1.38
STRAIGHT CORD PLUGS WITH SNAP-LOCK PLASTIC SHELL							
5LK5M	D	5	$1.84	$1.38	$1.27	$1.15	$0.92
2LK5M	D	4	1.96	1.47	1.35	1.23	.98
TRAIGHT CORD PLUGS WITH SHORT PLASTIC SHELL							
5QK3M	E	2	$1.36	$1.02	$0.935	$0.85	$0.68
2QK6M	E	4	1.92	1.44	1.32	1.20	.96
RECEPTACLES FOR LOCK RING PLUGS							
7HA3F	F	9	$1.96	$1.47	$1.35	$1.23	$0.98
7HA5F	F	12	2.36	1.77	1.62	1.48	1.18
0HA4F	F	10	2.08	1.56	1.43	1.30	1.04
1HA5F	F	11	2.36	1.77	1.62	1.48	1.18
RECEPTACLES FOR SHIELDED AND EXTENDED BARREL PLUGS							
7GB5F	G	12	$1.36	$1.02	$0.935	$0.85	$0.68
0GA4F	G	10	1.16	.87	.798	.725	.58
1GA5F	G	11	1.32	.99	.908	.825	.66
RECEPTACLE WITH MOLDED PLASTIC SHELL							
7GA3F	I	9	$1.12	$0.84	$0.77	$0.70	$0.56

CONTROL AND SWITCHING PLUGS AND RECEPTACLES

esigned for connecting remote speakers and electronic test and easurement equipment. When male plug No. 01QK2M is in- rted, contact is normally made between terminals 1 and 2. Closed rcuit switch in No. 54DA2F is not actuated. By removing the lug, rotating it 180° and re-inserting it, the internal switch is pened and the polarity with respect to terminal 2 is unchanged.

CONTROL AND SWITCHING PLUGS WITH SNAP-ON PLASTIC SHELLS							
01QK1M	J	8	$0.84	$0.63	$0.578	$0.525	$0.42
02QK2F	K	13	1.28	.96	.88	.80	.64
RECEPTACLES WITH INSULATED PLASTIC BODY							
53CA2F	L	13	$0.80	$0.60	$0.55	$0.50	$0.40
RECEPTACLE WITH METAL MOUNTING FLANGE							
54DA2F	M	14	$1.40	$1.05	$0.963	$0.875	$0.70

Last **digit** in Part Number denotes number of pins or contacts



PHONO JACKS AND PLUGS

Low cost, 2-conductor jacks and plugs for record players, tuners, tape recorders, test equipment, etc. No. 3501MC has ⅛" O.D. shell and cable clamp. No. 3501FF mounts from front in ¼" hole in panels up to ⅛" thick. No. 3501FR mounts from rear in ¾" hole in panels up to 1/16" thick. No. 3502 has 1½" O.D. shielded removable handle and cable clamp. No. 3503 external jack has 1½" O.D. removable handle with cable clamp. Series 3508 have cable clamps and snap-on plastic handles in red, black and white

Part Number	Fig.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
3501F	N	Chassis jack	$0.24	$0.18	$0.165	$0.15	$0.12
3501M	.....	Plug, no clamp	.16	.12	.11	.10	.08
3501MC	O	Plug	.36	.27	.248	.225	.18
3501FP	P	Chassis jack	.44	.33	.303	.275	.22
3501FR	.....	Chassis jack	.64	.48	.44	.40	.32
3502	Q	Plug	.64	.48	.44	.40	.32
3503	R	Ext. jack	.88	.66	.605	.55	.44
3558-1	S	Plug, red	.40	.30	.275	.25	.20
3558-2	S	Plug, black	.40	.30	.275	.25	.20
3558-5	S	Plug, white	.40	.30	.275	.25	.20
3511	T	Chassis jack†	.44	.33	.303	.275	.22
3511A	T	Chassis jack‡	.44	.33	.303	.275	.22
3512	T	Chassis jack*	.48	.36	.33	.30	.24
3512A	T	Chassis jack#	.48	.36	.33	.30	.24

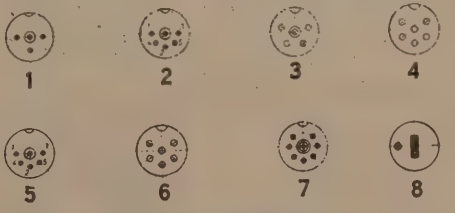
*Closed circuit type. #Closed circuit and grounding type. †Open circuit type. ‡Open circuit, grounded shell.

Y-ADAPTER

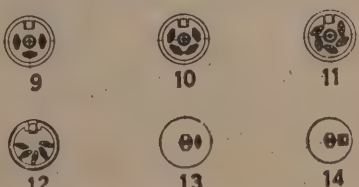
Rugged Y-adapters parallel two inputs or split two outputs. All 3-pin connectors are the Switchcraft "Q-G" type with gray shielded cable. The molded junction protects against dust, dirt, moisture and abuse. "Quick-Ground" feature on all plugs. Mates with Switchcraft "Q-G", "QGP" connectors and others with similar pin/contact arrangements.



Part Number	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
391Q13	A3F and A3M in parallel to A3M	$17.48	$13.11	$12.02	$10.93	$8.74



PIN ARRANGEMENTS



CONTACT ARRANGEMENTS

SWITCHCRAFT® INC. Audio Cable Assemblies

AUDIO CABLE ASSEMBLIES

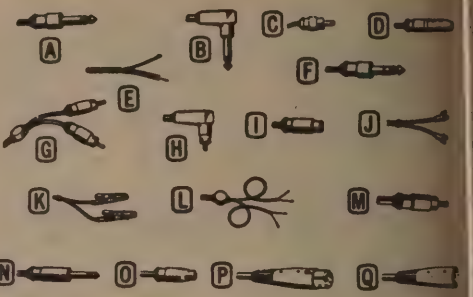
Molded cable assemblies offer built-in cable clamps to support cable and eliminate strain. Functionally designed handles provide easy grip. Cable is chrome gray with matching plastic handles. Fig. P is Switcraft "Q-G" 3-contact female connector. Fig. Q is "Q-G" 3-pin receptacle.

Part No.	Terminations End #1 Fig.	Terminations End #2 Fig.	Lgth. Feet	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
STRAIGHT 2-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTORS								
05AC05	A	A	1.5	$2.84	$2.13	$1.95	$1.78	$1.42
05AD05	A	A	2	3.24	2.43	2.23	2.03	1.62
05AK05	A	A	6	4.92	3.69	3.38	3.08	2.46
05AN05	A	A	10	5.08	3.75	3.44	3.13	2.50
05AU05	A	A	25	6.68	5.01	4.59	4.18	3.34
05AN15	A	B	10	5.00	3.75	3.44	3.13	2.50
05AK25	A	C	6	3.00	2.25	2.06	1.88	1.50
05AN25	A	C	10	4.28	3.21	2.94	2.68	2.14
05AN80	A	D	10	5.72	4.29	3.93	3.58	2.86
05AU80	A	D	25	7.88	5.91	5.42	4.93	3.94
05AK84	A	E	6	2.44	1.83	1.68	1.53	1.22
05AN84	A	E	10	4.64	3.48	3.19	2.90	2.32
STRAIGHT 3-CONDUCTOR PHONE PLUG TO VARIOUS CONNECTORS								
10BK10	F	F	6	$7.44	$5.58	$5.12	$4.65	$3.72

Stereo cable assemblies for use with stereo tape recorders using 3-conductor dual microphone inputs, such as Norelco, Webcor, Revere and Wollensak.

Part No.	Terminations End #1 Fig.	Terminations End #2 Fig.	Lgth. Feet	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
10FK25	F	G	6	$6.20	$4.65	$4.26	$3.88	$3.10
STRAIGHT PHONO PLUG TO VARIOUS CONNECTORS								
25AC25	C	C	1.5	$1.60	$1.20	$1.10	$1.00	$0.80
25AF25	C	C	3	1.76	1.32	1.21	1.10	.88
25AH25	C	C	4	2.04	1.53	1.40	1.28	1.02
25AK25	C	C	6	2.20	1.65	1.51	1.38	1.10
25AN25	C	C	10	3.12	2.34	2.15	1.95	1.56
25AR25	C	C	15	3.80	2.85	2.61	2.38	1.90
25AT25	C	C	20	4.60	3.45	3.16	2.88	2.30
25AU25	C	C	25	5.48	4.11	3.77	3.43	2.74
25WN25*	C	C	10	2.44	1.83	1.68	1.53	1.22
25WT25*	C	C	20	2.72	2.04	1.87	1.70	1.36
25AC30	C	H	1.5	1.60	1.20	1.10	1.00	.80
25AF30	C	H	3	1.76	1.32	1.21	1.10	.88
25AK82	C	I	6	2.64	1.98	1.82	1.65	1.32
25AN82	C	I	10	3.12	2.34	2.15	1.95	1.56
25AT82	C	I	20	4.60	3.45	3.16	2.88	2.30
25WN82*	C	I	10	2.24	1.68	1.54	1.40	1.12
25WT82*	C	I	20	2.48	1.86	1.71	1.55	1.24
25AF84	C	E	3	1.36	1.02	.935	.85	.68
25AH84	C	E	4	1.36	1.02	.935	.85	.68
25AK84	C	E	6	1.68	1.26	1.16	1.05	.84
25AN84	C	E	10	2.44	1.83	1.68	1.53	1.22
25WN84	C	E	10	1.60	1.20	1.10	1.00	.80
25WT84	C	E	20	2.16	1.62	1.49	1.35	1.08
25CN85#	C	J	10	2.16	1.62	1.49	1.35	1.08

*Molded brown handles and clear rip cord cable. #Parallel unshielded cable.



Special stereo cables. Two shielded, insulated cables inside a common plastic jacket. Provides two isolated channels for all stereo applications. Color coded phono plugs.

Part No.	Terminations End #1 Fig.	Terminations End #2 Fig.	Lgth. Feet	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
25FF25	G	G	3	$5.04	$3.78	$3.47	$3.15	$2.52
25FK25	G	G	6	5.76	4.32	3.96	3.60	2.88
25FN25	G	G	10	6.92	5.19	4.76	4.33	3.46
25FF82	G	I	3	4.56	3.42	3.14	2.85	2.28
25FK82	G	I	6	5.36	4.02	3.69	3.35	2.68
STRAIGHT LONG HANDLE PHONO PLUG TO VARIOUS CONNECTORS								
26AF26	M	M	3	$1.96	$1.47	$1.35	$1.23	$0.98
26AK26	M	M	6	2.40	1.80	1.65	1.50	1.20
26AN82	M	I	10	3.44	2.58	2.37	2.15	1.72
RIGHT ANGLE PHONO PLUG TO VARIOUS CONNECTORS								
30AK30	H	H	6	$2.16	$1.62	$1.49	$1.35	$1.08
30AN30	H	H	10	3.00	2.25	2.06	1.88	1.50
30AR30	H	H	15	3.80	2.85	2.61	2.38	1.90
STRAIGHT TINI-PLUG TO VARIOUS CONNECTORS								
40DF05	N	A	3	$3.24	$2.43	$2.23	$2.03	$1.62
40DK05	N	A	6	3.84	2.88	2.64	2.40	1.92
40DF25	N	C	3	2.92	2.19	2.01	1.83	1.46
40DK25	N	C	6	3.48	2.61	2.39	2.18	1.74
40DN25	N	C	10	4.00	3.00	2.75	2.50	2.00
40DK40	N	N	6	4.04	3.03	2.78	2.53	2.02
40DK80	N	D	6	3.84	2.88	2.64	2.40	1.92
40DK83	N	O	6	3.84	2.88	2.64	2.40	1.92
40DN83	N	O	10	4.56	3.42	3.14	2.85	2.28
40DF84	N	E	3	2.44	1.83	1.68	1.53	1.22
CORDS WITH SPADE LUGS								
85CT85#	J	J	20	$2.20	$1.65	$1.51	$1.38	$1.10
85CU85#	J	J	25	2.72	2.04	1.87	1.70	1.36
MICROPHONE CONNECTORS								
51BU92	P	Q	25	18.80	14.10	$12.93	$11.75	$9.40

"POWER JAX" POWER PLUGS AND JACKS

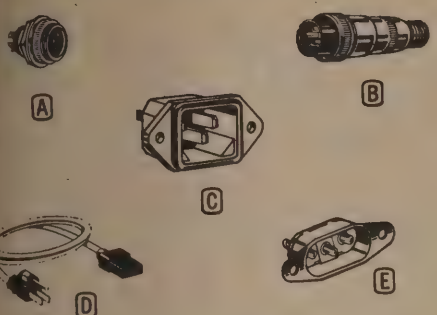


Designed for AC/DC converter/battery charger connections. Jacks mount in 3/16" dia. hole in panels up to 1/8" thick.

Part No.	Fig.	Pin Diam.	Mates With	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
POWER JACKS								
712A	A	.100"	760	$1.28	$0.96	$0.88	$0.80	$0.64
POWER PLUGS								
760	B	.100"	712A	$1.24	$0.93	$0.853	$0.775	$0.62
S-760	B	.080"	722A	1.28	.96	.88	.80	.64

MOLDED HEADPHONE CABLES

Part No.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
05KJ88	4 foot, 2-cond. cable from phone plug to Y junc. 1 foot cable to eyelet plugs	$5.88	$4.41	$4.04	$3.68	$2.94
05NJ88	Straight 2-cond. phone plug to eyelet plugs. 5 foot (extended) coiled cord	5.72	4.29	3.93	3.58	2.86



"SLIM-LINE" I AUDIO CONNECTORS

ll, 4-contact connectors for audio and communications pment. No. 2504FP is a female receptacle, 4¾4" dia., ¾" th behind panel; mounting hardware supplied. No. 2504M is a n, male cord plug with coupling ring. Mates with No. 2504FP. ght nickel plating on all metal parts.

Part No.	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
504FP	A	$3.12	$2.34	$2.15	$1.95	$1.56
504M	B	3.12	2.34	2.15	1.95	1.56

EUROPEAN AC RECEPTACLES

AC receptacles designed to meet European standards. Three pins are .078" x .157"; UL and CSA approved. Molded plastic housing. Mate with Switchcraft No. P-2392, Belden No. 17250 or European cord sets. **Mtg. Hole:** .785" x 1.08" (front mtg.) or .906" x 1.2" (rear mtg.). **Ratings:** EAC-301, 6 amps; EAC-302, 15 amps.

Part Number	Fig.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
EAC-301	C	$1.28	$0.96	$0.88	$0.80	$0.64
EAC-302	C	1.28	.96	.88	.80	.64

EUROPEAN AC LINE CORD

AC line cord has three #18 conductors in black vinyl jacket. Measures 7½ ft. overall. Receptacle mates with Switchcraft No. EAC-301 or with European equivalents. Male plug is three-pin type. U.L. and C.S.A. approved. Available for government/military applications under Part No. FSN-6150-3405.

P-2392	D	$3.84	$2.88	$2.64	$2.40	$1.92

AC RECEPTACLES

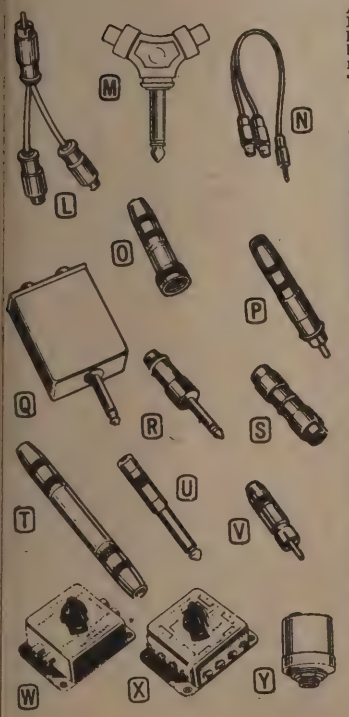
Three-pin receptacles for use in all electrical/electronic equipment. Recessed type mounting. Brass contact pins are silver-plated and chromate dipped. Include self-aligning feature to compensate for misalignment. U.L. approved. Rated 7 amps at 115 V.

AC3#	E	$1.12	$0.84	$0.77	$0.70	$0.56
AC3G#	E	1.08	.81	.743	.675	.54
LAC3	E	1.12	.84	.77	.70	.56
LAC3G*	E	1.08	.81	.743	.675	.54
LAC3GD†	E	1.12	.84	.77	.70	.56

*Center pin grounded; others ungrounded. #Pins .122" dia. for mating with custom cords such as Belden No. 17250; others standard .124" dia. †Center pin ⅛" longer to make contact first.

AUDIO ADAPTERS

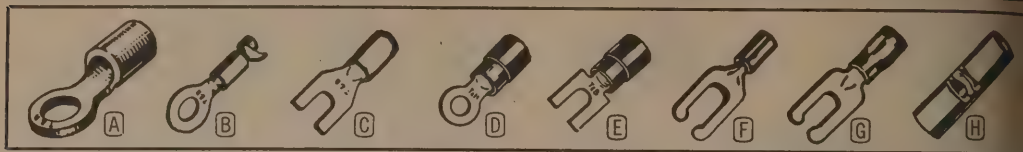




Adapters for interconnecting components that do not have mating jacks and/or plugs. For hi-fi, phonographs, tuners, tape recorders, amplifiers, etc. Positive mating contacts of high quality material prevent line losses. Nickel plated finish for long life. No. 332A can be used as male or female connector; coupling ring screws back, converting to male connector. All are 2-cond. except where noted.

Part Number	Fig.	Description	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
370A	A	Phono jack to Tini-Plug (¾4" dia.)	$1.96	$1.47	$1.35	$1.23	$0.98
374	B	Phone jack to Tini-Plug (¾4" dia.)	2.92	2.19	2.01	1.83	1.46
376	C	Tini-Jax to Micro-Plug (.097" dia.)	2.64	1.98	1.82	1.65	1.32
383A	D	A3F plug to extension phone jack	7.04	5.28	4.84	4.40	3.52
384A	E	A3M plug to 3-cond. phone jack	6.44	4.83	4.43	4.03	3.22
386A	F	A3F plug to 3-cond. phone plug	6.88	5.16	4.73	4.30	3.44
387A	G	A3M plug to 3-cond. phone plug	6.12	4.59	4.21	3.83	3.06
389	H	A3F plug to A3F plug, shielded	7.24	5.43	4.98	4.53	3.62
390	I	A3M plug to A3M plug, shielded	6.12	4.59	4.21	3.83	3.06
25Y	J	Two male mike conns. to fem. mike conn.	3.60	2.70	2.48	2.25	1.80
330F	K	Two phono jacks to phono plug, shielded	3.32	2.49	2.28	2.08	1.66
330F1	L	Phono plug to two phono jacks, shielded, 4" cable	3.44	2.58	2.37	2.15	1.72
330F2	.....	Phono plug and jack to phono plug, shielded, 4" cable	3.44	2.58	2.37	2.15	1.72
330PJ	M	2 phono jacks to 2-cond. phone plug, shielded	3.68	2.76	2.53	2.30	1.84
330T1	.....	Tini-Plug (¾4" dia.) to two phono jacks, 6" long.	4.24	3.18	2.92	2.65	2.12
330T2	.....	Tini-Plug (¾4" dia.) to two phono plugs, 6" long	4.24	3.18	2.92	2.65	2.12
330T3	N	Tini-Plug (¾4" dia.) to two Tini-Jax (¾4" dia.), shielded, 4" long	4.24	3.18	2.92	2.65	2.12
332A	O	Phone jack to female mike conn.	2.84	2.13	1.95	1.78	1.42
336A	P	Phone jack to phono plug, shielded	2.72	2.04	1.87	1.70	1.36
336B	.....	Phone jack to phono jack, shielded	2.64	1.98	1.82	1.65	1.32
340	Q	Two phone jacks to phone plug, shielded	6.20	4.65	4.26	3.88	3.10
345A	R	Phone plug to phono jack	2.16	1.62	1.49	1.35	1.08
349A	S	Phono jack to phono jack, shielded	1.80	1.35	1.24	1.13	.90
361A	T	Phone jack to phone jack, shielded	3.80	2.85	2.61	2.38	1.90
364A	U	Tini-Jax (¾4" dia.) to std. phone plug, shielded	2.52	1.89	1.73	1.58	1.26
365	V	Tini-Jax (¾4" dia.) to phono jack, shielded	2.52	1.89	1.73	1.58	1.26
668	W	Stereo selector switch. 3 stereo inputs; 1 stereo output. Phono jacks.	15.52	11.64	10.67	9.70	7.76
670	X	Stereo speaker selector. 2 stereo inputs; 1 stereo output. Switch selects either or both inputs. Screw terminals.	16.64	12.48	11.44	10.40	8.32
CN-11	Y	Shielded 2-cond. Littel-Jax jack for high impedance circuits.	1.60	1.20	1.10	1.00	.80

T&B / Thomas & Betts STA-KON® TERMINALS



Copper (tin-plated) terminals, which, when crimped with proper Sta-Kon tool, comprises a terminal with less resistance than an equal length of the conductor. Barrel serrated to increase grip and contact area. Insulated terminals color coded for wire size range identification. Wire size also stamped on terminals. Meet or exceed UL, CSA and military specifications.

UNINSULATED TERMINALS

RING TONGUE TYPE (FIG. A)

Install with WT1000, WT2000, WT111M, WT110M or WT130A hand tools.

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
A18-4	22–18	#4	100	500	$11.36	$ 8.88	$ 7.10
A18-6	22–18	#6	100	500	11.36	8.88	7.10
A18-8	22–18	#8	100	500	11.36	8.88	7.10
A18-10	22–18	#10	100	500	11.36	8.88	7.10
A18-14	22–18	¼"	100	500	15.20	11.88	9.50
A18-516	22–18	5/16"	100	500	15.20	11.88	9.50
A18-38	22–18	3/8"	100	500	15.20	11.88	9.50
B14-4	16–14	#4	100	500	11.36	8.88	7.10
B14-6	16–14	#6	100	500	11.36	8.88	7.10
B14-8	16–14	#8	100	500	11.36	8.88	7.10
B14-10	16–14	#10	100	500	11.36	8.88	7.10
B14-14	16–14	¼"	100	500	15.20	11.88	9.50
B14-516	16–14	5/16"	100	500	15.20	11.88	9.50
B14-38	16–14	3/8"	100	500	15.20	11.88	9.50
C10-6	12–10	#6	50	500	16.00	12.50	10.00
C10-8	12–10	#8	50	500	16.00	12.50	10.00
C10-10	12–10	#10	50	500	16.00	12.50	10.00
C10-14	12–10	¼"	50	500	18.08	14.13	11.30
C10-516	12–10	5/16"	50	500	18.08	14.13	11.30
C10-38	12–10	3/8"	50	500	18.08	14.13	11.30
Install with WT115A hand tool.							
D8-10	9, 8, 7	#10	25	500	$46.56	$36.38	$29.10
D8-14	9, 8, 7	¼"	25	500	46.56	36.38	29.10
D8-516	9, 8, 7	5/16"	25	500	46.56	36.38	29.10
D8-38	9, 8, 7	3/8"	25	500	46.56	36.38	29.10
E6-10	6, 5	#10	20	200	52.16	40.75	32.60
E6-14	6, 5	¼"	20	200	52.16	40.75	32.60
E6-516	6, 5	5/16"	20	200	52.16	40.75	32.60
E6-38	6, 5	3/8"	20	200	52.16	40.75	32.60
F4-10	4, 3	#10	20	200	68.32	53.38	42.70
F4-14	4, 3	¼"	20	200	68.32	53.38	42.70
F4-516	4, 3	5/16"	20	200	68.32	53.38	42.70
F4-38	4, 3	3/8"	20	200	68.32	53.38	42.70
G2-14	2, 1	¼"	10	100	131.52	102.75	82.20
G2-516	2, 1	5/16"	10	100	131.52	102.75	82.20
G2-38	2, 1	3/8"	10	100	131.52	102.75	82.20
H10-14†	1/0	¼"	10	100	144.96	113.25	90.60
J20-38†	2/0	3/8"	10	100	168.00	131.25	105.00
K30-38†	3/0	3/8"	5	50	198.40	155.00	124.00
L40-38†	4/0	3/8"	5	50	224.00	175.00	140.00
M250-38†	*	3/8"	5	50	264.00	206.25	165.00

*250MCM. †Install with WT117 hand tool only.

RING TONGUE WITH INSULATION GRIP (FIG. B)

Install with WT100, WT2000 or WT110M hand tools.

B14-6G	6-14	#6	100	500	$16.80	$13.13	$10.50
B14-10G	6-14	#10	100	500	16.80	13.13	10.50

FORK TONGUE TYPE (FIG. C)

Install with WT2000, WT111M, WT110M, WT130A or WT1000 hand tools.

A18-6F	22–18	#6	100	500	$11.36	$ 8.88	$ 7.10
A18-8F	22–18	#8	100	500	11.36	8.88	7.10
A18-10F	22–18	#10	100	500	11.36	8.88	7.10
A18-14F	22–18	¼"	100	500	15.20	11.88	9.50
B14-6F†	16–14	#6	100	500	11.36	8.88	7.10
B14-6FS*	16–14	#6	100	500	12.96	10.13	8.10
B14-8F†	16–14	#8	100	500	11.36	8.88	7.10
B14-10F†	16–14	#10	100	500	11.36	8.88	7.10
B14-14F†	16–14	¼"	100	500	15.20	11.88	9.50
C10-6F	12–10	#6	50	500	16.00	12.50	10.00
C10-8F	12–10	#8	50	500	16.00	12.50	10.00
C10-10F	12–10	#10	50	500	16.00	12.50	10.00
C10-14F	12–10	¼"	50	500	18.08	14.13	11.30

*Turned up toes. †Also available with insulation grip.

NYLON SELF-INSULATED TERMINALS

Types with prefix RZ install with WT462 hand tool; all others install with WT2000, WT100M or WT145C hand tools. Also available with expanded insulation grip.

RING TONGUE TYPE (FIG. D)

RZ22-2	26–22	#2	100	500	$26.24	$20.50	$16.40
RZ22-4	26–22	#4	100	500	26.24	20.50	16.40
RZ22-6	26–22	#6	100	500	26.24	20.50	16.40
RZ22-8	26–22	#8	100	500	26.24	20.50	16.40
RZ22-10	26–22	#10	100	500	26.24	20.50	16.40
RA18-4	22–16	#4	100	500	26.24	20.50	16.40
RA18-6	22–16	#6	100	500	26.24	20.50	16.40

NYLON SELF-INSULATED—RING TONGUE TYPE (CONT'D)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
RA18-8	22–16	#8	100	500	$26.24	$20.50	$16.40
RA18-10	22–16	#10	100	500	26.24	20.50	16.40
RA18-14	22–16	¼"	100	500	28.32	22.13	17.70
RA18-516	22–16	5/16"	100	500	28.32	22.13	17.70
RA18-38	22–16	3/8"	100	500	28.32	22.13	17.70
RB14-4	18–14	#4	100	500	26.24	20.50	16.40
RB14-6	18–14	#6	100	500	26.24	20.50	16.40
RB14-8	18–14	#8	100	500	26.24	20.50	16.40
RB14-10	18–14	#10	100	500	26.24	20.50	16.40
RB14-14	18–14	¼"	100	500	28.32	22.13	17.70
RB14-516	18–14	5/16"	100	500	28.32	22.13	17.70
RB14-38	18–14	3/8"	100	500	28.32	22.13	17.70
RC10-6	12–10	#6	50	500	31.36	24.50	19.60
RC10-8	12–10	#8	50	500	31.36	24.50	19.60
RC10-10	12–10	#10	50	500	31.36	24.50	19.60
RC10-14	12–10	¼"	50	500	34.24	26.75	21.40
RC10-516	12–10	5/16"	50	500	34.24	26.75	21.40
RC10-38	12–10	3/8"	50	500	34.24	26.75	21.40

FORK TONGUE TYPE (FIG. E)

RA18-6F	22–16	#6	100	500	$26.24	$20.50	$16.40
RA18-8F	22–16	#8	100	500	26.24	20.50	16.40
RA18-10F	22–16	#10	100	500	26.24	20.50	16.40
RA18-14F	22–16	¼"	100	500	28.32	22.13	17.70
RB14-6F	18–14	#6	100	500	26.24	20.30	16.40
RB14-8F	18–14	#8	100	500	26.24	20.50	16.40
RB14-10F	18–14	#10	100	500	26.24	20.50	16.40
RB14-14F	18–14	¼"	100	500	28.32	22.13	17.70
RC10-6F	12–10	#6	50	500	31.36	24.50	19.60
RC10-8F	12–10	#8	50	500	31.36	24.50	19.60
RC10-10F	12–10	#10	50	500	31.36	24.50	19.60
RC10-14F	12–10	¼"	50	500	34.24	26.75	21.40

LOCKING SPADE TERMINALS

Goes on like fork tongue; stays on like ring tongue. Use 110M, -111M, -130A, WT2000, -1000 for non-insul. types; WT-445A, WT1000 and WT145C for vinyl self-insul. Series RA and RB.

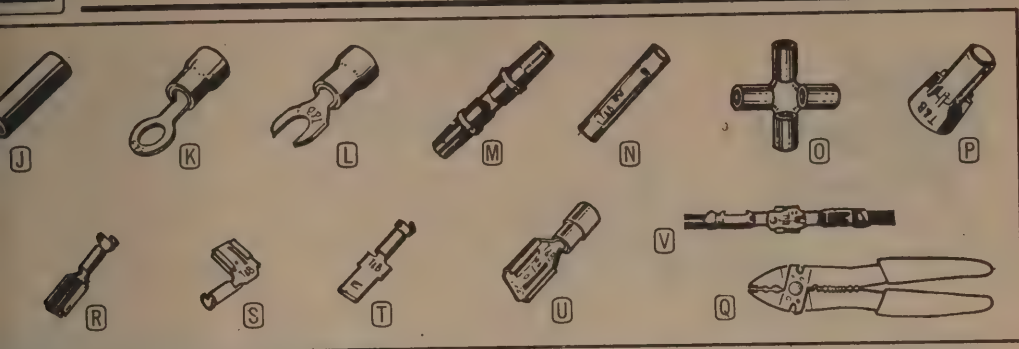
Non-insulated (Fig. F)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
A18-6FL	22–16	#6	100	500	$13.60	$10.63	$ 8.50
A18-8FL	22–16	#8	100	500	13.60	10.63	8.50
A18-10FL	22–16	#10	100	500	13.60	10.63	8.50
B14-6FL	16–14	#6	100	500	13.60	10.63	8.50
B14-8FL	16–14	#8	100	500	13.60	10.63	8.50
B14-10FL	16–14	#10	100	500	13.60	10.63	8.50
C10-6FL	12–10	#6	50	500	18.72	14.63	11.70
C10-8FL	12–10	#8	50	500	18.72	14.63	11.70
C10-10FL	12–10	#10	50	500	18.72	14.63	11.70
C10-14FL	12–10	¼"	50	500	22.88	17.88	14.30
Vinyl self-insulated with insulation support (Fig. G)							
18RA-6FL	22–16	#6	100	500	$20.64	$16.13	$12.90
18RA-8FL	22–16	#8	100	500	20.64	16.13	12.90
18RA-10FL	22–16	#10	100	500	20.64	16.13	12.90
14RB-6FL	18–14	#6	100	500	20.64	16.13	12.90
14RB-8FL	18–14	#8	100	500	20.64	16.13	12.90
14RB-10FL	18–14	#10	100	500	20.64	16.13	12.90
10RC-6FL	12–10	#6	50	500	27.84	21.75	17.40
10RC-8FL	12–10	#8	50	500	27.84	21.75	17.40
10RC-10FL	12–10	#10	50	500	27.84	21.75	17.40
10RC-14FL	12–10	¼"	50	500	33.60	26.25	21.00
Vinyl self-insulated with expanded insulation support (Fig. G)							
18RA-6FLX	22–16	#6	100	500	$22.88	$17.88	$14.30
18RA-8FLX	22–16	#8	100	500	22.88	17.88	14.30
18RA-10FLX	22–16	#10	100	500	22.88	17.88	14.30
14RB-6FLX	18–14	#6	100	500	22.88	17.88	14.30
14RB-8FLX	18–14	#8	100	500	22.88	17.88	14.30
14RB-10FLX	18–14	#10	100	500	22.88	17.88	14.30
10RC-6FLX	12–10	#6	50	500	29.28	22.88	18.30
10RC-8FLX	12–10	#8	50	500	29.28	22.88	18.30
10RC-10FLX	12–10	#10	50	500	29.28	22.88	18.30
10RC-14FLX	12–10	¼"	50	500	35.84	28.00	22.40

UNINSULATED 2-WAY BUTT SPLICES (FIG. H)

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
2A18*	22–18	100	500	$ 13.76	$10.75	$ 8.60
2B14*	16–14	100	500	13.76	10.75	8.60
2C10*	12–10	50	500	19.20	15.00	12.00
2D8†	9–8–7	25	250	46.88	36.63	29.30
2E6†	6–5	20	200	65.44	51.13	40.90
2F4†	4–3	15	150	93.12	72.75	58.20
2G21†	2–1	5	50	123.36	96.38	77.10

Install with hand tool: *WT2000, -110M, -111M, -130A, WT1000; †WT115A, -117.



UNINSULATED OVERLAP TYPE SPLICES (FIG. J)

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
22-20‡	22-20	100	500	$11.68	$ 9.13	$ 7.30
18-16‡	18-16	100	500	12.32	9.63	7.70
14-12†	14-12	50	500	16.48	12.88	10.30
10-9†	10-9	20	200	27.04	21.13	16.90
8-7†	8-7	20	200	44.32	34.63	27.70
6-5†	6-5	20	200	56.64	44.25	35.40
4-2†	4-2	10	100	69.44	54.25	43.40

Install with: †WT115A, WT117; ‡WT2000, WT110M, WT1000.

VINYL GRIP SERIES TERMINALS

Install with WT2000, WT145C or WT1000 hand tools. Also available with expanded insulation.

RING TONGUE TYPE (FIG. K)

T. & B. No.	Wire Range	Stud Size	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
RA-4	22-16	#4	100	500	$18.56	$14.50	$11.60
RA-6	22-16	#6	100	500	18.56	14.50	11.60
RA-8	22-16	#8	100	500	18.56	14.50	11.60
RA-10	22-16	#10	100	500	18.56	14.50	11.60
RA-14	22-16	¼"	100	500	22.40	17.50	14.00
RA-516	22-16	5/16"	100	500	22.40	17.50	14.00
RA-38	22-16	3/8"	100	500	22.40	17.50	14.00
RB-4	18-14	#4	100	500	18.56	14.50	11.60
RB-6	18-14	#6	100	500	18.56	14.50	11.60
RB-8	18-14	#8	100	500	18.56	14.50	11.60
RB-10	18-14	#10	100	500	18.56	14.50	11.60
RB-14	18-14	¼"	100	500	22.40	17.50	14.00
RB-516	18-14	5/16"	100	500	22.40	17.50	14.00
RB-38	18-14	3/8"	50	500	22.40	17.50	14.00
RC-6	12-10	#6	50	500	24.00	18.75	15.00
RC-8	12-10	#8	50	500	24.00	18.75	15.00
RC-10	12-10	#10	50	500	24.00	18.75	15.00
RC-14	12-10	¼"	50	500	28.32	22.13	17.70
RC-516	12-10	5/16"	50	500	28.32	22.13	17.70
RC-38	12-10	3/8"	50	500	28.32	22.13	17.70

FORK TONGUE TYPE (FIG. L)

RA-6F	22-16	#6	100	500	$18.56	$14.50	$11.60
RA-8F	22-16	#8	100	500	18.56	14.50	11.60
RA-10F	22-16	#10	100	500	18.56	14.50	11.60
RB-6F	18-14	#6	100	500	18.56	14.50	11.60
RB-6FS*	18-14	#6	100	500	20.00	15.63	12.50
RB-8F	18-14	#8	100	500	18.56	14.50	11.60
RB-10F	18-14	#10	100	500	18.56	14.50	11.60
RB-14F	18-14	¼"	100	500	22.40	17.50	14.00
RC-6F	12-10	#6	100	500	24.00	18.75	15.00
RC-8F	12-10	#8	100	500	24.00	18.75	15.00
RC-10F	12-10	#10	50	500	24.00	18.75	15.00
RC-14F	12-10	¼"	50	500	28.32	22.13	17.70

*Turned up toes.

SPLICES

NYLON INSULATED, BUTT TYPE, METAL GRIP (FIG. M)

Meets MIL specs. for aircraft/missile systems. Use WT145A, WT157N, WT462 tools.

T. & B. No.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
RZZ	26-22	50	500	$ 99.52	$ 77.75	$62.20
RAA	22-18	50	500	99.52	77.75	62.20
RBB	16-14	50	500	99.52	77.75	62.20
RCC	12-10	25	250	139.68	109.13	87.30

NYLON INSULATED, BUTT TYPE, VINYL GRIP (FIG. N)

Install with WT2000, WT105M or WT1000 hand tools.

RA18†	22-18	100	500	$23.68	$18.50	$14.80
RB14†	16-14	100	500	23.68	18.50	14.80
RC10†	12-10	50	500	34.72	27.13	21.70
A20*	22-20	100	500	18.56	14.50	11.60
B16*	18-16	100	500	18.56	14.50	11.60
C12*	14-12	50	500	26.88	21.00	16.80

*Overlap type (not illus.). †Install with WT145C or WT1000.

STA-KON WIRE JOINTS NYLON INSULATED

T. & B. No.	Holds Wires	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
RB44*^	2-#20, 2-#16	100	2000	$11.52	$ 9.00	$ 7.20
RC55*^	3-#16, 3-#14	50	2000	17.92	14.00	11.20
RP12*^	3-#14, 4-#12	100	1000	17.92	14.00	11.20
PT66M†§	2-#14, 3-#12	100	1000	12.48	9.75	7.80
PT70†*	2-#14, 3-#12	200	2000	5.60	4.38	3.50
PT70M†*	3-#18, 4-#12	200	2000	5.60	4.38	3.50
PT80†*	2-#16, 4-#10	50	500	14.08	11.00	8.80

Install with tools: *WT2000; †WT111M, WT2000, WT161, WT1000; ‡WT2000, WT161, WT1000. §Two piece. *Uninsulated. ^Fig. P. WT2130 Ratchet Tool for RC & RP Series.

SNAP-ON DISCONNECTS

Female fits on male tab (B14-250T) for fast, secure assembly. Insulation grip. RB14-250F nylon insulated. Male tabs for terminal board mtg. available.

T. & B. No.	Fig.	Wire Range	Unit Qty.	Std. Pkg.	Net per 100, Lots of: Below Unit Qty.	Unit Qty.	Std. Pkg.
B14-250F*	R	20-14	100	500	$16.80	$13.13	$10.50
B14-250A†	S	20-14	50	500	18.24	14.25	11.40
B14-250T‡	T	20-14	100	500	16.80	13.13	10.50
RB14-250F§	U	16-14	100	500	27.84	21.75	17.40

Install with tools: *WT2000, WT1000, WT2000; †WT110M, WT1000, WT111M; ‡WT110, WT1000; §WT2000, WT145A, WT1000.

WRISTLOCK DISCONNECT

Install with WT110M or WT1000 hand tool.

B14-D	V	20-14	50	500	$28.00	$21.88	$17.50
T209W	...	(Insul.)	25	250	14.56	11.38	9.10
RA18D*	...	22-18	50	500	55.84	43.63	34.90
RB14D*	...	16-14	50	500	55.84	43.63	34.90

*Nylon insulated; install with WT2000, WT1000 or WT145A.

TERMINAL ASSORTMENT KITS

T. & B. No. PK-1002 Kit—Includes 100 each: 18RA-6FL, 18RA-8FL, 14RB-8FL, 14RB-10FL, 2RA-18X, 2RB-14X; 50 each: 2RC-10X, 10RC-10FL locking fork terminals; one WT1000 tool. In steel case. Net Each..... **$135.00**

T. & B. No. PK-1003 Kit—Includes 100 each: 18RA-250F, 14RB-250F, 14RB-250T, A18-250, B14-250; 50 each: 10RC-250F, C10-250F, B14-250A disconnect terminals; one WT1000 tool. In steel case. Net Each..... **$130.00**

T. & B. No. PK-1001 Kit—Consists of WT1000 tool and steel case. Net Each..... **$27.00**

T. & B. No. PK-1000 Steel Case—Net Each..... **12.00**

T. & B. No. 20WJ Kit—Contains 100 B14-10, 50 C10-10 terminals and 200 PT70 wire joints plus one WT111M hand tool. Net Each..... **$35.95**

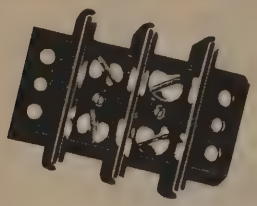
T. & B. No. 21WJ Kit—Contains 200 each of B14-10 terminals and PT70M wire joints; 100 each of C10-10, B14-10F and RB14-10 terminals; and 1 WT2000 tool. Net Each..... **$85.30**

TERMINAL TOOLS

STA-KON® HAND TOOLS (FIG. Q)

T. & B. Number	For Use With Series	Net Each
WT2000	A, B, C, AB, PT, RA, RB, RC	$15.00
WT105M	RA, RB, RC splices except exp. insulation	22.50
WT161	A, B, C, PT	27.50
WT115A	D, E, F, G	99.50
WT111M	A, B, C, PT	14.00
WT110M	A, B, C	20.00
WT130A	22-10 wire for A, B and C	#
WT145C	RA, RB, RC, RAA, RBB, RCC	#
WT157N	2RAA, 2RBB, 2RCC	#
WT445A	RA, RB	#
WT462	RZZ	#
WT2130		#
WT117		#

#Prices on application.



CINCH CONNECTORS

Barrier design for high voltage rating against frayed wires. Molded phenolic base, nick plated steel eyelets and screw and solder dipped brass terminals. Terminal styles availabl no suffix indicates standard binder-head screws; Y indicates soldered wires underneat block.

	Type 140	Type 141	Type 142	Type 150*	Type 172	Type 541
Size, W. x H.	7/8" x 13/32"	1 1/16" x 1/2"	1 5/16" x 5/8"	1 13/16" x 3/4"	5/8" x 1/16"	1 3/8" x 11/
Barrier spacing	3/8"	7/16"	9/16"	11/16"	1/4"	7/16"
Mtg. centers	5/16"	21/64"	1/2"	5/8"	1/4"	21/64"
Mtg. hole dia.	.160"	.175"/.185"	.209"	.160"	.125"	.175"/.185
Screw size	5-40	6-32	8-32	10-32	2-56	6-32
Max. wire size	#14	#12	#12	#10	#16	...
Max. V rms	1100	1100	1600	1700	1000	2800

*Have .136" hole centered between mounting holes.

Type 140

No. of Terms.	Type No.	Blocks Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots of 1-24	25-49	50-99
1	1-140	$0.28	$0.21	$0.19				
2	2-140	.32	.28	.23	MS-2-140	$.174	$.134	$.12
3	3-140	.36	.31	.27	MS 3 140	.174	.134	.12
4	4-140	.48	.36	.32	MS-4-140	.174	.134	.12
5	5-140	.57	.47	.37	MS-5-140	.174	.134	.12
6	6-140	.66	.54	.47	MS-6-140	.174	.134	.12
7	7-140	.77	.60	.53	MS-7-140	.201	.161	.134
8	8-140	.87	.71	.58	MS-8-140	.201	.161	.134
9	9-140	.98	.78	.62	MS-9-140	.201	.161	.134
10	10-140	1.05	.86	.74	MS-10-140	.227	.174	.148
11	11-140	1.13	.92	.78	MS-11-140	.227	.174	.148
12	12-140	1.28	1.01	.84	MS-12-140	227	.174	.148
13	13-140	1.35	1.07	.92	MS-13-140	.253	.201	.174
14	14-140	1.45	1.16	.99	MS-14-140	.253	.201	.174
15	15-140	1.54	1.26	1.03	MS-15-140	.253	.201	.174
16	16-140	1.63	1.32	1.09	MS-16-140	.281	.227	.187
17	17-140	1.75	1.38	1.16	MS-17-140	.281	.227	.187
18	18-140	1.83	1.47	1.25	MS-18-140	.281	.227	.187
19	19-140	1.93	1.53	1.30	MS-19-140	.307	.253	.214
20	20-140	2.02	1.62	1.36	MS-20-140	.307	.253	.214
21	21-140	2.60	2.07	1.75	MS-21-140	.307	.253	.214

Type 140-Y

No. of Terms.	Type No.	Blocks Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots o 1-24	25-49	50-99
1	1-140-Y	$0.32	$0.27	$0.23				
2	2-140-Y	.39	.32	.29	MS-2-140-Y	$.201	$.161	$.134
3	3-140-Y	.50	.39	.33	MS-3-140-Y	.201	.161	.134
4	4-140-Y	.65	.54	.47	MS-4-140-Y	.201	.161	.134
5	5-140-Y	.80	.63	.55	MS-5-140-Y	.227	.174	.148
6	6-140-Y	.99	.79	.65	MS-6-140-Y	.227	.174	.148
7	7-140-Y	1.07	.87	.75	MS-7-140-Y	.227	.174	.148
8	8-140-Y	1.24	.99	.83	MS-8-140-Y	.227	.174	.148
9	9-140-Y	1.37	1.08	.93	MS-9-140-Y	.227	.174	.148
10	10-140-Y	1.51	1.24	1.02	MS-10-140-Y	.253	.201	.174
11	11-140-Y	1.63	1.32	1.09	MS-11-140-Y	.253	.201	.174
12	12-140-Y	1.80	1.43	1.23	MS-12-140-Y	.253	.201	.174
13	13-140-Y	1.93	1.54	1.31	MS-13-140-Y	.281	.227	.187
14	14-140-Y	2.08	1.63	1.40	MS-14-140-Y	.281	.227	.187
15	15-140-Y	2.23	1.79	1.49	MS-15-140-Y	.281	.227	.187
16	16-140-Y	2.35	1.88	1.57	MS-16-140-Y	.307	.253	.214
17	17-140-Y	2.49	1.99	1.70	MS-17-140-Y	.307	.253	.214
18	18-140-Y	2.65	2.13	1.77	MS-18-140-Y	.307	.253	.214
19	19-140-Y	2.76	2.23	1.85	MS-19-140-Y	.347	.267	.227
20	20-140-Y	2.91	2.33	1.94	MS-20-140-Y	.347	.267	.227
21	21-140-Y	3.07	2.46	2.06	MS-21-140-Y	.347	.267	.227

Type 141

No. of Terms.	Type No.	Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots of 1-24	25-49	50-99
1	1-141	$0.32	$0.27	$0.23				
2	2-141	.35	.29	.25	MS-2-141	$.174	$.134	$.12
3	3-141	.48	.36	.32	MS-3-141	.174	.134	.12
4	4-141	.60	.51	.42	MS-4-141	.174	.134	.12
5	5-141	.77	.58	.55	MS-5-141	.201	.161	.134
6	6-141	.84	.66	.57	MS-6-141	.201	.161	.134
7	7-141	1.00	.79	.66	MS-7-141	.201	.161	.134
8	8-141	1.09	.88	.76	MS-8-141	.227	.174	.148
9	9-141	1.24	.99	.83	MS-9-141	.227	.174	.148
10	10-141	1.36	1.08	.92	MS-10-141	.227	.174	.148
11	11-141	1.47	1.17	1.01	MS-11-141	.253	.201	.174
12	12-141	1.58	1.29	1.05	MS-12-141	.253	.201	.174
13	13-141	1.74	1.37	1.13	MS-13-141	.281	.227	.187
14	14-141	1.84	1.47	1.25	MS-14-141	.281	.227	.187
15	15-141	1.95	1.55	1.32	MS-15-141	.307	.253	.214
16	16-141	2.08	1.68	1.40	MS-16-141	.307	.253	.214
17	17-141	2.21	1.77	1.49	MS-17-141	.347	.267	.227
18	18-141	2.33	1.86	1.55	MS-18-141	.347	.267	.227
19	19-141	2.46	1.96	1.67	MS-19-141	.36	.294	.24
20	20-141	2.60	2.07	1.75	MS-20-141	.36	.294	.24

Type 141-Y

No. of Terms.	Type No.	Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots of 1-24	25-49	50-99
1	1-141-Y	$0.37	$0.31	$0.28				
2	2-141-Y	.50	.37	.32	MS-2-141-Y	$.201	$.161	$.134
3	3-141-Y	.66	.54	.47	MS-3-141-Y	.227	.174	.148
4	4-141-Y	.87	.71	.58	MS-4-141-Y	.227	.174	.148
5	5-141-Y	1.04	.84	.70	MS-5-141-Y	.227	.174	.148
6	6-141-Y	1.21	.98	.82	MS-6-141-Y	.227	.174	.148
7	7-141-Y	1.42	1.11	.97	MS-7-141-Y	.227	.174	.148
8	8-141-Y	1.57	1.28	1.05	MS-8-141-Y	.253	.201	.174
9	9-141-Y	1.76	1.40	1.17	MS-9-141-Y	.253	.201	.174
10	10-141-Y	1.94	1.54	1.31	MS-10-141-Y	.281	.227	.187
11	11-141-Y	2.14	1.72	1.43	MS-11-141-Y	.281	.227	.187
12	12-141-Y	2.30	1.84	1.53	MS-12-141-Y	.307	.253	.214
13	13-141-Y	2.49	1.99	1.70	MS-13-141-Y	.307	.253	.214
14	14-141-Y	2.69	2.17	1.81	MS-14-141-Y	.347	.267	.227
15	15-151-Y	2.86	2.29	1.92	MS-15-151-Y	.347	.267	.227
16	16-141-Y	3.07	2.46	2.06	MS-16-141-Y	.36	.294	.24
17	17-141-Y	3.25	2.61	2.19	MS-17-141-Y	.36	.294	.24
18	18-141-Y	3.44	2.75	2.30	MS-18-141-Y	.36	.294	.24
19	19-141-Y	2.66	2.92	2.43	MS-19-141-Y	.387	.307	.267
20	20-141-Y	3.82	3.07	2.56	MS-20-141-Y	.387	.307	.267

Type 142

No. of Terms.	Type No.	Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots of 1-24	25-49	50-99
1	1-142	$0.35	$0.29	$0.25				
2	2-142	.42	.33	.29	MS-2-142	$.174	$.134	$.12
3	3-142	.56	.45	.36	MS-3-142	.174	.134	.12
4	4-142	.75	.58	.51	MS-4-142	.201	.161	.134
5	5-142	.88	.71	.58	MS-5-142	.201	.161	.134
6	6-142	1.03	.83	.71	MS-6-142	.201	.161	.134
7	7-142	1.21	.97	.80	MS-7-142	.227	.174	.148
8	8-142	1.35	1.07	.91	MS-8-142	.227	.174	.148
9	9-142	1.49	1.21	1.00	MS-9-142	.253	.201	.174
10	10-142	1.67	1.33	1.09	MS-10-142	.281	.227	.187
11	11-142	1.81	1.44	1.23	MS-11-142	.281	.227	.187
12	12-142	1.95	1.55	1.32	MS-12-142	.307	.253	.214
13	13-142	2.13	1.71	1.42	MS-13-142	.307	.253	.214
14	14-142	2.27	1.82	1.52	MS-14-142	.347	.267	.227
15	15-142	2.43	1.94	1.62	MS-15-142	.347	.267	.227
16	16-142	2.60	2.07	1.75	MS-16-142	.387	.307	.267
17	17-142	2.73	2.20	1.83	MS-17-142	.427	.334	.281

Type 142-Y

No. of Terms.	Type No.	Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots of 1-24	25-49	50-99
1	1-142-Y	$0.44	$0.34	$0.30				
2	2-142-Y	.57	.48	.37	MS-2-142-Y	$.201	$.161	$.15
3	3-142-Y	.79	.62	.54	MS-3-142-Y	.227	.174	.164
4	4-142-Y	1.04	.84	.71	MS-4-142-Y	.227	.174	.164
5	5-142-Y	1.28	1.01	.86	MS-5-142-Y	.227	.174	.164
6	6-142-Y	1.51	1.23	1.01	MS-6-142-Y	.253	.201	.184
7	7-142-Y	1.75	1.38	1.16	MS-7-142-Y	.253	.201	.184
8	8-142-Y	1.95	1.55	1.32	MS-8-142-Y	.281	.227	.208
9	9-142-Y	2.19	1.76	1.45	MS-9-142-Y	.281	.227	.208
10	10-142-Y	2.43	1.94	1.62	MS-10-142-Y	.307	.253	.234
11	11-142-Y	2.65	2.14	1.79	MS-11-142-Y	.307	.253	.234
12	12-142-Y	2.87	2.30	1.93	MS-12-142-Y	.347	.267	.247
13	13-142-Y	3.12	2.49	2.08	MS-13-142-Y	.347	.267	.247
14	14-142-Y	3.34	2.68	2.24	MS-14-142-Y	.36	.294	.27
15	14-152-Y	3.60	2.86	2.38	MS-15-142-Y	.387	.307	.287
16	16-142-Y	3.81	3.07	2.56	MS-16-142-Y	.454	.36	.327
17	17-142-Y	4.05	3.23	2.70	MS-17-142-Y	.454	.36	.327

Type 150

No. of Terms.	Type No.	Blocks Net Each, Lots of 1-24	25-49	50-99
1	1-150	$0.78	$0.61	$0.54
2	2-150	1.05	.86	.74
3	3-150	1.49	1.21	1.00
4	4-150	1.92	1.53	1.30
5	5-150	2.35	1.86	1.55
6	6-150	2.76	2.23	1.85
7	7-150	3.21	2.56	2.16
8	8-150	3.64	2.91	2.43
9	9-150	4.07	3.25	2.71
10	10-150	4.50	3.60	3.00
11	...	...	...	...
12	...	...	...	...
13	...	...	...	...
14	...	...	...	...

Type 172

Type No.	Blocks Net Each, Lots of 1-24	25-49	50-99
2-172	$0.66	$0.54	$0.47
3-172	.84	.66	.57
4-172	1.02	.83	.69
5-172	1.21	.97	.80
6-172	1.37	1.08	.93
7-172	1.54	1.26	1.03
8-172	1.74	1.37	1.13
9-172	1.88	1.51	1.29
10-172	2.07	1.68	1.38
11-172	2.24	1.80	1.50
12-172	2.42	1.93	1.62
13-172	2.60	2.07	1.75
14-172	2.76	2.21	1.84

Type 541

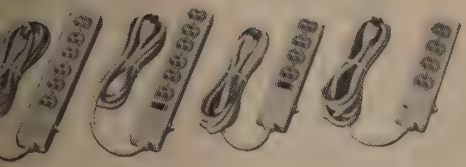
Type No.	Blocks Net Each, Lots of 1-24	25-49	50-99	Marker Strips Type No.	Net Each, Lots o 1-24	25-49	50-99
2-541	$0.88	$0.74	$0.59	MSX-2-541	$.227	$.174	$.148
3-541	1.05	.86	.73	MSX-3-541	.227	.174	.148
4-541	1.26	1.00	.84	MSX-4-541	.227	.174	.148
5-541	1.42	1.11	.97	MSX-5-541	.227	.174	.148
6-541	1.70	1.35	1.13	MSX-6-541	.227	.174	.148
7-541	1.81	1.44	1.23	MSX-7-541	.227	.174	.148
8-541	1.96	1.57	1.32	MSX-8-541	.227	.174	.148
9-541	2.16	1.74	1.44	MSX-9-541	.227	.174	.148
10-541	2.31	1.85	1.54	MSX-10-541	.227	.174	.148
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...

SGL WABER®

UL Listed Multiple Outlet Strips

se multiple outlet strips have passed the rigid testing of derwriters Laboratories and bear the UL label. Many dels also have CSA certification. All models are designed xceed NEC requirements and meet OSHA standards. All s are rated 15 amperes, 125 VAC, 60 Hz, 1875 watts, con- ous duty and have "U" ground outlets, circuit breaker ection, 14/3 SJT power supply cords, and grounded steel g. CSA certified units are indicated by an asterisk follow- the model number.

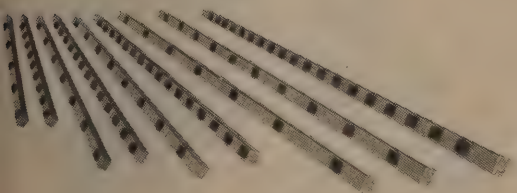
THE PREMIER GROUP



w designs feature a slim, contoured shape and color-coordi- ed case and components. Model ULA4E has 4 outlets; odel ULA4TME has 4 outlets and illuminated master switch; odel ULA6E has 6 outlets; Model ULA6TME has 6 outlets d illuminated master switch. All have circuit breaker pro- tion. **Case Color:** Beige. Model ULA4 Series—**Overall Size:** /4" lg. × 2 3/8" w. × 1" h. **Mounting:** Type III on 8 1/4" nters. Model ULA6 Series—**Overall Size:** 12" lg. × 2 3/8" w. 1" h. **Mounting:** Type III on 10 15/16" centers.

SGL Waber Model	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
LA4E-6	4	6	2	$18.60
LA4E-15	4	15	2 1/2	21.80
LA4TME-6	4	6	2	21.90
LA4TME-15	4	15	2 1/2	25.15
LA6E-6	6	6	2 1/2	23.25
LA6E-15	6	15	3	26.50
LA6TME-6	6	6	2 1/2	26.55
LA6TME-15	6	15	3	29.80

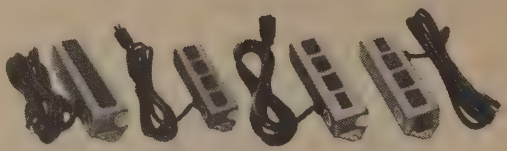
THE PERMANENT-INSTALLATION GROUP



esigned to be wired into a fixed installation by means of the rnished wire nuts. They do not have a power supply cord or a circuit breaker. The base is screwed down in the de- red location, and the cover is fastened to the base with lf-tapping screws. Knockouts for 1/2" fittings are provided n both ends of cover. **Overall Size:** 1 1/2" w. × 1 3/8" h. × ngth as in table below. **Case Color:** Blue.

SGL Waber Model	Outlet Centers, Inches	No. of Outlets	Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
4305	7	5	3	3	$22.90
4309	3 1/2	9	3	3	25.40
4407	7	7	4	4	26.55
4413	3 1/2	13	4	4	34.15
4508	7	8	5	5	28.55
4515	3 1/2	15	5	5	39.00
4607	10 1/2	7	6	6	27.65
4610	7	10	6	6	32.05
4619	3 1/2	19	6	6	46.00

THE COMPACT GROUP



Model UL602CB has 5 outlets; Model UL603CB has 4 outlets; Model UL605CB has 3 outlets, on-off switch, and pilot light; Model UL608CB has 4 outlets (3 top outlets and 1 end outlet), a switch, and pilot light. All have circuit breaker protection. **Overall Size:** 8 5/8" lg. × 2 3/8" w. × 1 1/2" h. **Case Color:** Blue. **Mounting:** Type II on 5 13/16" centers.

SGL Waber Model	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
UL602CB-6*	5	6	2	$19.50
UL602CB-15*	5	15	2 1/2	22.75
UL603CB-6*	4	6	2	17.90
UL603CB-15*	4	15	2 1/2	21.15
UL605CB-6*	3	6	2	20.40
UL605CB-15*	3	15	2 1/2	23.65
UL608CB-6*	4	6	2	21.40
UL608CB-15*	4	15	2 1/2	24.65

THE MID-LENGTH GROUP



Models UL15CB and UL17CB are designed for "series stringing" with a convenient outlet on one end. Model UL15CB is the control unit with on-off switch, pilot light, and 7 outlets; Model UL17CB is the slave unit with 9 outlets. Model UL18CB has 9 outlets on one plane; Model UL24CB has 6 outlets, on-off switch, and pilot light. Model UL24MCB has the same features as Model UL24CB, except that it has a 0-150 VAC voltmeter instead of a pilot light. Model UL32PCB has 4 color coded, individually switched outlet sets with built-in pilot lights. All units have circuit breaker protection. **Overall Size:** 13 1/8" lg. × 2 3/8" w. × 1 1/2" h. **Case Color:** Blue. **Mounting:** Type II on 10 3/8" centers.

SGL Waber Model	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
UL15CB-6*	7	6	2 1/2	$27.00
UL15CB-15*	7	15	3	30.25
UL17CB-6	9	6	2 1/2	25.40
UL17CB-15	9	15	3	28.65
UL18CB-6	9	6	2 1/2	26.55
UL18CB-15	9	15	3	29.80
UL24CB-6*	6	6	2 1/2	26.55
UL24CB-15*	6	15	3	29.80
UL24MCB-6*	6	6	2 1/2	35.80
UL24MCB-15*	6	15	3	39.05
UL32PCB-6*	4	6	2 1/2	34.90
UL32PCB-15*	4	15	3	38.15

SGL WABER®

UL Listed Multiple Outlet Strips

These multiple outlet strips have passed the rigid testing of Underwriters Laboratories and bear the UL label. Many models also have CSA certification. All models are designed to exceed NEC requirements and meet OSHA standards. All units are rated 15 amperes, 125 VAC, 60 Hz, 1875 watts, continuous duty and have "U" ground outlets, circuit breaker protection, 14/3 SJT power supply cords, and grounded steel cases.

THE TRIM-LINE GROUP



All units are equipped with a master switch, pilot light, and circuit breaker. **Case Color:** Blue. Model UL7208 has 8 outlets and measures 25 1/16" lg. × 2" w. × 1" h. Mounting is Type III on 22 15/16" centers. Model UL7408 has 8 outlets and measures 49 1/16" lg. × 1 1/2" w. × 1 3/8" h. Mounting is Type III on 46 15/16" centers. Model UL7415 has 15 outlets and measures 49 1/16" lg. × 1 1/2" w. × 1 3/8" h. Mounting is Type III on 46 15/16" centers. Model UL7610 has 10 outlets and measures 73 1/16" lg. × 1 1/2" w. × 1 3/8" h. Mounting is Type III on 70 15/16" centers. Model 7619 has 19 outlets and measures 73 1/16" lg. × 1 1/2" w. × 1 3/8" h. Mounting is Type III on 70 15/16" centers.

SGL Waber Model	Length, Feet	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
UL7208-6	2	8	6	3 1/2	$36.05
UL7208-15	2	8	15	4 1/4	39.30
UL7408-6*	4	8	6	4 1/2	41.50
UL7408-15*	4	8	15	5 1/4	44.75
UL7415-6	4	15	6	4 3/4	47.80
UL7415-15	4	15	15	5 1/2	51.05
UL7610-6	6	10	6	6 3/4	48.75
UL7610-15	6	10	15	7 1/2	52.00
UL7619-6	6	19	6	7	56.80
UL7619-15	6	19	15	7 3/4	60.05

THE DELUXE GROUP



Model UL25CB has 7 alternating black and white, individually switched outlet sets, a master pilot light, and on-off switch. Model UL25PCB has 7 alternating black and white, individually switched and illuminated outlet sets with a master switch and pilot light. Model UL800CB has 10 outlets and master on-off switch with built-in pilot light. All units have circuit breaker protection. **Overall Size:** 13 7/16" lg. × 4 1/4" w. × 1 1/2" h. **Mounting:** Type II on 10 11/16" × 2 3/4" centers. **Case Color:** Blue.

SGL Waber Model	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
UL25CB-6*	7	6	3	$48.40
UL25CB-15*	7	15	4	51.65
UL25PCB-6*	7	6	3	57.00
UL25PCB-15*	7	15	4	60.25
UL800CB-6	10	6	3	36.05
UL800CB-15	10	15	4	39.30

*Units have CSA certification.

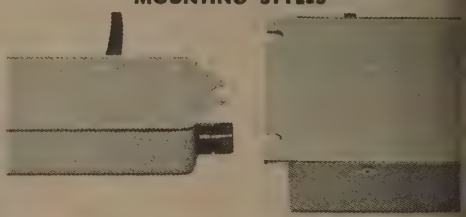
THE CONSOLE GROUP



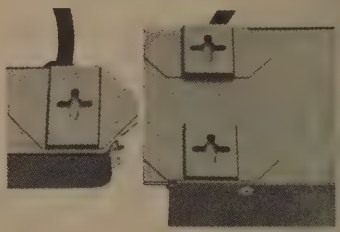
Outlets are located in the back of these desk or bench con soles. Units have wood grain vinyl adhered to steel cases Base color is black. Switches are located on the front pane and are illuminated. All units have circuit breaker protection **Mounting:** Four rubber feet. Model UL95CB has 4 outlet and measures 7 1/2" lg. × 2 3/4" w. × 2 3/4" h. Mode UL96CB has 6 outlets and measures 9 1/4" lg. × 2 3/4" w × 2 3/4" h. Model UL97CB has 8 outlets and measures 11 lg. × 2 3/4" w. × 2 3/4" h.

SGL Waber Model	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
UL95CB-6	4	6	4	$35.9
UL95CB-15	4	15	5	39.1
UL96CB-6	6	6	4	45.6
UL96CB-15	6	15	5	48.8
UL97CB-6	8	6	4	55.0
UL97CB-15	8	15	5	58.2

MOUNTING STYLES



Type I



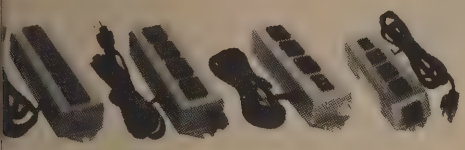
Type II



Type III

U.S. Patent Nos. 4,072,401 and 4,113,334

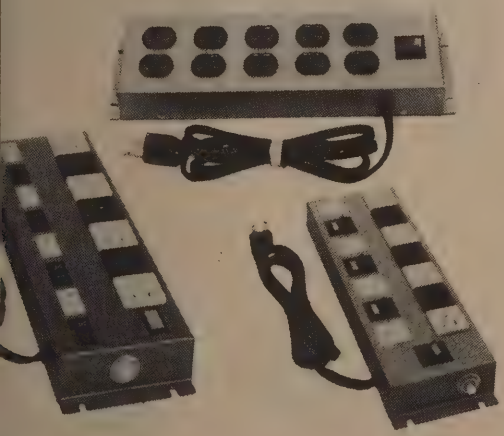
THE COMPACT GROUP



el 602 has 5 outlets; Model 603 has 4 outlets; Model 605 3 outlets, on-off switch, and pilot light; Model 608 has 3 ets on top, one outlet on one end (for "series stringing"), er on-off switch, and pilot light. All units have "U" nd outlets. **Overall Size:** 8 5/8" lg. × 2 3/8" w. × 1 1/2" h. nting: Type I on 8 1/4" centers. **Case Color:** Gray.

GL aber odel	Protection	No. of Out-lets	Cord Lgth., Feet	Shpg. Wt., Lbs.	Net Each 1-9
	.....	5	6	1 1/2	$11.85
15	.....	5	15	2	14.75
	Fuse	4	6	1 1/2	15.25
15	Fuse	4	15	2	18.15
CB	Circuit breaker	4	6	1 1/2	16.00
CB-15	Circuit breaker	4	15	2	18.90
CB	Circuit breaker	3	6	1 1/2	18.50
CB-15	Circuit breaker	3	15	2	21.40
CB	Circuit breaker	4	6	1 1/2	19.50
CB-15	Circuit breaker	4	15	2	22.40

THE DELUXE GROUP



odel 25 has 7 color-coded, individually switched outlet sets, master on-off switch, and pilot light. All switches in the 25P ries are illuminated. Model 800 has 10 outlets and an il-minated, master on-off switch. All units have circuit breaker otection and "U" ground outlets. **Overall Size:** 13 7/16" × 4 1/4" w. × 1 1/2" h. **Mounting:** Type I on 13 1/8" × 7/8" centers. **Case Color:** Gray.

SGL Waber Model	Protection	No. of Out-lets	Cord Lgth., Feet	Shpg. Wt., Lbs.	Net Each 1-9
CB	Circuit breaker	7	6	3	$46.50
CB-15	Circuit breaker	7	15	3 1/2	49.40
PCB	Circuit breaker	7	6	3	55.05
PCB-15	Circuit breaker	7	15	3 1/2	58.00
0CB	Circuit breaker	10	6	3	34.25
0CB-15	Circuit breaker	10	15	3 1/2	37.15

THE MID-LENGTH GROUP



Model 15 and 17 are designed for "series stringing" with an outlet on one end and the power cord on the other. Model 15 is the control unit, with on-off switch, pilot light, fuse (or circuit breaker), and 7 outlets. Model 17, with 9 outlets, is the slave unit. Model 18 has 9 outlets; Model 24 has 6 outlets, on-off switch, pilot light, and fuse (or circuit breaker). Model 32 has four color-coded, individually switched outlet sets with circuit breaker protection; the switches on the Model 32 are illuminated to serve as pilot lights. **Overall Size:** 13 1/8" lg. × 2 3/8" w. × 1 1/2" h. **Mounting:** Type I on 12 3/4" centers. **Case Color:** Gray.

SGL Waber Model	Protection	No. of Out-lets	Cord Lgth., Feet	Shpg. Wt., Lbs.	Net Each 1-9
15	Fuse	7	6	2	$24.40
15-15	Fuse	7	15	2 1/2	27.30
15CB	Circuit breaker	7	6	2	25.15
15CB-15	Circuit breaker	7	15	2 1/2	28.05
17	.....	9	6	2	17.90
17-15	.....	9	15	2 1/2	20.85
18	.....	9	6	2	17.00
18-15	.....	9	15	2 1/2	19.90
24	Fuse	6	6	2	24.15
24-15	Fuse	6	15	2 1/2	27.05
24CB	Circuit breaker	6	6	2	24.90
24CB-15	Circuit breaker	6	15	2 1/2	27.80
32PCB	Circuit breaker	4	6	2	32.80
32PCB-15	Circuit breaker	4	15	2 1/2	36.05

Maximum Rating: 15 A, 125 VAC, 60 Hz, 1875 Watts, Continuous Duty.

CORDGARD™ ELECTRICAL CORD DUCTING

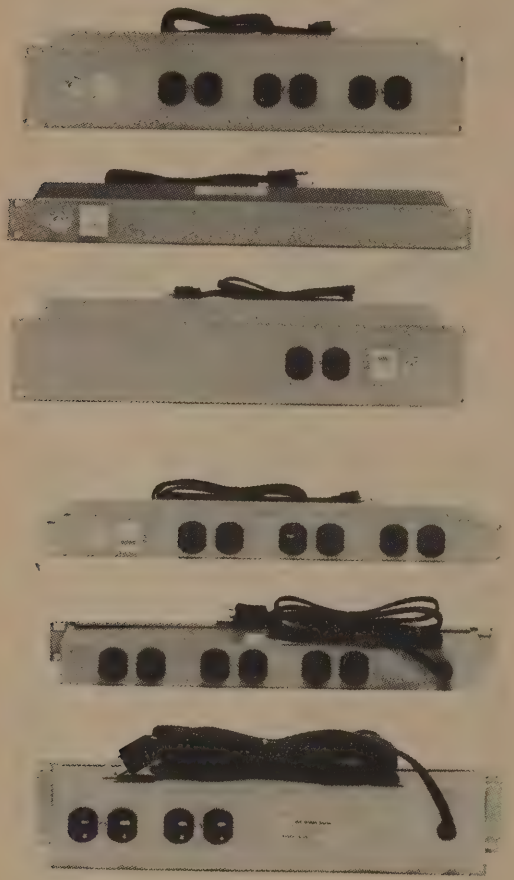


A quick, inexpensive way to keep people from tripping over electrical cords that must be run across floors or flat surfaces. Comes complete and ready to use; includes double-faced adhesive tape to prevent sliding on smooth surfaces, or, it can be permanently attached with epoxy cement. For carpeted floors, ribbed slots on the bottom prevent movement. The ducting is made of tough, flexible vinyl and can be used indoors or outdoors. Measures 3" wide × 9/16" high. Center channel will accept cords up to 7/16" diameter and is slit for easy cord insertion. The standard color is beige which will harmonize with every decor; other colors are available on special order.

Model	Color	Length, Feet	Wt., Lbs.	Net Each
G-6-BE	Beige	6	4	$ 9.95
G-15-BE	Beige	15	9	23.25
G-50-BE	Beige	50	29	74.95

SGL WABER® Multiple Outlet Strips

THE RACK-MOUNT GROUP

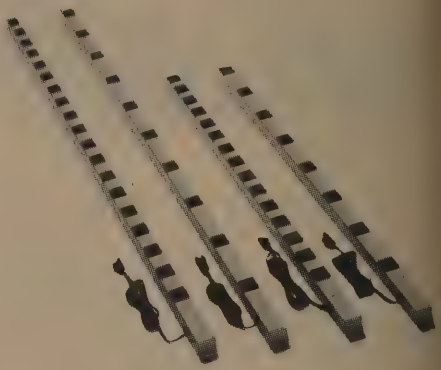


Rack-mounted outlet strips offer instant power distribution either from the front, the back, or a combination of both. Model 900 has 6 outlets, circuit breaker, illuminated master on-off switch all on the front. Model 903 has the same features as Model 900 except in a slim-line version. Model 904 has a circuit breaker, illuminated master on-off switch, and 2 outlets on the front; it also has 4 outlets on the back. Model 911 has a circuit breaker and illuminated master on-off switch on the front and 6 outlets on the back. Models 900 and 904—**Overall Size:** 19" lg. × 3 15/32" w. (front plate) × 2 3/8" d. **Mounting Centers:** 18 1/4" × 3". Models 903 and 911—**Overall Size:** 19" lg. × 1 23/32" × 2 3/8" d. **Mounting Centers:** 18 1/4" × 1 1/4". **Color:** Black.

SGL Waber Model	No. of Outlets‡	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
900CB†	6F	6	3	$37.80
900CB-15†	6F	15	3 1/2	41.05
903CB†	6F	6	2 1/2	35.75
903CB-15†	6F	15	3	39.00
904CB†	2F, 4B	6	3	39.65
904CB-15†	2F, 4B	15	3 1/2	42.90
911CB†	6B	6	2 1/2	37.50
911CB-15†	6B	15	3	40.75

†All models protected by circuit breaker.
‡F = front; B = back.

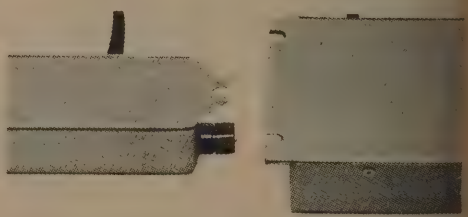
THE TRIM-LINE GROUP



Space-saving strips are ideal for racks, workbenches, and lab tables. Model 7408 is 4 feet long and has 8 outlets. Model 7415 is 4 feet long and has 15 outlets. Model 7610 is 6 feet long and has 10 outlets. Model 7619 is 6 feet long and has 19 outlets. All units have "U" ground outlets. Models 7408 and 7415—**Overall Length:** 49 1/16". **Mounting Centers:** 48 3/4". Models 7610 and 7619—**Overall Length:** 73 1/16". **Mounting Centers:** 72 3/4". **Color:** Gray.

SGL Waber Model	Length, Feet	No. of Outlets	Cord Length, Feet	Shpg. Wt., Lbs.	Net Each 1-9
7408	4	8	6	4 1/4	$32.50
7408-15	4	8	15	5	35.40
7415	4	15	6	4 1/4	38.75
7415-15	4	15	15	5	41.65
7610	6	10	6	6 1/2	39.65
7610-15	6	10	15	7 1/4	42.55
7619	6	19	6	6 1/2	47.80
7619-15	6	19	15	7 1/4	50.75

MOUNTING STYLE



Type I

Maximum Rating: 15 A, 125 VAC, 60 Hz, 1875 Watts, Continuous Duty.

ASK FOR YOUR NEW, FREE 24 PAGE CATALOG SHOWING OVER 120 MULTIPLE OUTLET STRIPS

SGL WABER® Power Line Conditioners

POWER MASTER™ LINE MONITOR POWER CONDITIONERS

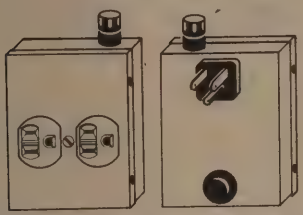
id-state electronic plug-in devices, whether they be a simple culator, an expensive instrument, or a computer system, are ject to very hostile environments caused by electrical dis- ances coming through the utility power lines that feed m, or generated by electrical equipment within a building. ially, the solution to this problem has been the installation a "dedicated" or separate power line to the wall receptacle t powers the sensitive equipment. Even with this expensive allation, equipment damage, memory failure, erroneous a input and output caused by thunderstorms, equipment tching, and other "electrical pollution," are still common urrences.

ver Master Line Monitor Power Conditioners eliminate the uirement of a separate, dedicated, branch circuit. They e the latest solid-state technology. Most models have multi- ge filter networks, continuous voltage spike protection, I, EMI, and EMP noise rejection, anti-ground loop design, elded power cords, and more, all in one package. Your ipment can work without interruption even when the power ditioner is dissipating a high voltage spike. Also, all dels have an easily replaceable 15 amp fuse in the rare case of a voltage spike that exceeds the design limits of the power conditioner.

Power Master Line Monitor Power Conditioners protect against spike damage by filtering both the hot line and the neutral line. In addition, the filter is bidirectional—it dissipates both incoming spikes and outgoing spikes created by your equipment.

The **Power Master** filter system is passive—it operates only when a voltage spike occurs. When a spike is sensed, the **Power Master** instantaneously clamps or reduces the over-voltage to a level that is safe for use by your equipment. The spike, depending upon its voltage and the design of your **Power Master,** is harmlessly dissipated, either in the form of heat, through the grounding system, or both. All noise-protected models have a three-stage passive noise filter system —a high frequency filter and a low frequency filter that operate in the transverse mode, the common mode, or both. The high and low frequency filters overlap to give double protection in the mid-range frequencies where it is needed the most.

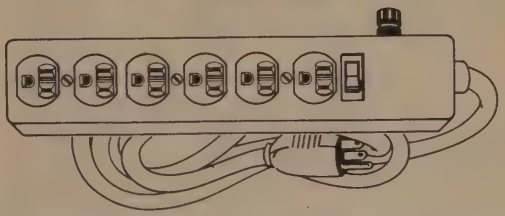
MODEL LM 1100



odel LM 1100 is a wall plug-in unit designed for use at the ll receptacle. Ready to use—just plug it in. Provides one " ground duplex outlet accommodating two plugs. Contains e metal-oxide varistor for spike protection. Case is steel h baked-on black finish; fuse holder and outlets, are also ack. Measures 4 1/8" × 3 1/4" × 1 5/16". Weighs just 1 1/2 . **Max. Spike Energy Dissipation:** 50 joules one time, 25 ules with repeated usage, self-restoring. **Max. Spike Voltage:** 00 volts. **Clamping Spike Voltage:** 325 volts. **Surge Current amping Ratio:** No greater than 2.03:1. **Max. Spike Current:** 00 amps. **Clamping Response Time:** 10 nanoseconds or less. **vironment:** For indoor use in dry location.

odel LM 1100 Power Line Conditioner—Net Each **$43.55**

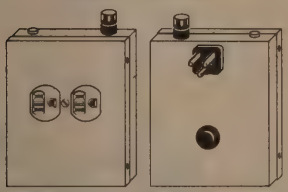
MODEL LM 1200



The Model LM 1200 is a strip type power line conditioner with 3 "U" ground duplex outlets accomodating 6 plugs. Contains 3 metal-oxide varistors for isolated spike protection. Case is steel with baked-on beige finish; outlets, power cord, and illuminated master switch are also beige, while fuse holder is black. Measures 11 15/16" × 2 5/16" × 1" and weighs just 2 lbs. Mounts by means of keyhole slots on 10 15/16" centers. Power cord is 14/3 SJT 9 feet long. **Max. Spike Energy Dissipation:** 50 joules one time, 25 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 6000 volts. **Clamping Spike Voltage:** 325 volts. **Surge Current Clamping Ratio:** No greater than 2.03:1. **Max. Spike Current:** 2000 amps. **Clamping Response Time:** 10 nanoseconds or less. **Environment:** For indoor use in dry locations.

Model LM 1200 Power Line Conditioner—Net Each **$65.35**

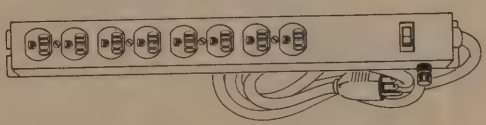
MODEL LM 2100



he Model LM 2100 is a wall plug-in unit designed for use the wall receptacle. Ready to use—just plug it in. Provides e "U" ground duplex outlet for two plugs. Unit contains x-stage filter network providing isolated voltage spike and ise protection for each outlet. Case is steel with baked-on ack finish; outlets and fuse holder are also black. Measures 1/2" × 4 1/2" × 1 5/16" and weighs 4 lbs. **Max. Spike nergy Dissipation:** 50 joules one time. 25 joules with repeated age, self-restoring. **Max. Spike Voltage:** 7000 volts. **Clamping ike Voltage:** 225 volts. **Max. Spike Current:** 2000 amps. **Surge urrent Clamping Ratio:** No greater than 1.5:1. **Clamping Re- onse Time:** 10 nanoseconds or less. **Noise Rejection Fre- uency Range:** 1 kHz to 100 MHz. **Attenuation:** 20 to 40 dB olt ratio). **Noise Protection:** Transverse mode. **Environment:** or indoor use in dry locations.

odel LM 2100 Power Line Conditioner—Net Each.....**$90.80**

MODEL LM 2200



The Model LM 2200 is an outlet strip type power line conditioner providing 8 outlets, each of which has isolated spike protection. A six-stage filter network provides voltage spike and noise protection. Case is steel with baked-on beige finish; the outlets, power cord, and illuminated master on-off switch are also beige and the fuse holder is black. Unit measures 20" × 2" × 1" and weighs 6 lbs. Power cord is 14/3 SJT 9 feet long. Mounts by means of end slots on 19 3/4" centers. **Max. Spike Energy Dissipation:** 50 joules one time, 25 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 7000 volts. **Clamping Spike Voltage:** 225 volts. **Max. Spike Current:** 2000 amps. **Surge Current Clamping Ratio:** No greater than 1.5:1. **Clamping Response Time:** 10 nanoseconds or less. **Noise Rejection Frequency Range:** 1 kHz to 100 MHz. **Attenuation:** 20 to 40 dB (volt ratio). **Noise Protection:** Transverse mode. **Environment:** For indoor use in dry locations.

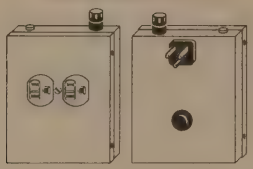
Model LM 2200 Power Line Conditioner—Net Each **$136.25**

WE ENCOURAGE YOU TO CONTACT ONE OF OUR SALESMEN

FOR A COMPETITIVE PRICE ON YOUR NEXT ELECTRONICS ORDER.

SGL WABER® Power Line Conditioners

MODEL LM 3100



The Model LM 3100 is a wall plug-in unit designed for use at wall receptacle. Provides two hospital-grade outlets with isolated spike protection. A six-stage filter network provides voltage spike and noise protection. Case is steel with baked-on beige finish; outlts are also beige—fuse holder is black. Unit measures 5 1/2″ × 4 1/2″ × 1 5/16″ and weighs 5 lbs. **Max. Spike Energy Dissipation:** 50 joules one time, 25 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 7000 volts. **Clamping Spike Voltage:** 225 volts. **Surge Current Clamping Ratio:** No greater than 1.5:1. **Max. Spike Current:** 2000 amps. **Clamping Response Time:** 10 nanoseconds or less. **Noise Rejection Frequency Range:** 1 kHz to 100 MHz. **Attenuation:** 20 to 40 dB (volt ratio). **Noise Protection:** Transverse and common modes. **Leakage Current:** Leakage to ground lead does not exceed 10 microamperes. **Environment:** For indoor use in dry locations.

Model LM 3100 Power Line Conditioner—Net Each **$136.25**

MODEL LM 3200



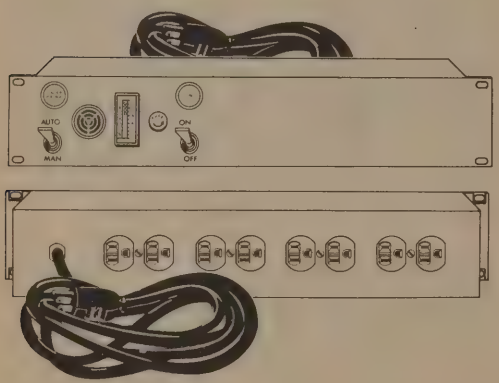
Model LM 3200 is a strip type power line conditioner providing 8 outlets. A six-stage filter network provides voltage spike and noise protection. Each outlet has isolated grounding and isolated spike protection. Case is steel with baked-on beige finish; the hospital-grade outlets are ivory, shielded power cord is black, master on-off switch has black housing and amber illumination, fuse holder is black. Unit measures 20″ × 2″ × 1″ and weighs 7 lbs. **Max. Spike Energy Dissipation:** 50 joules one time, 25 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 7000 volts. **Clamping Spike Voltage:** 225 volts. **Max. Spike Current:** 2000 amps. **Surge Current Clamping Ratio:** No greater than 1.5:1. **Clamping Response Time:** 10 nanoseconds or less. **Noise Rejection Frequency Range:** 1 kHz to 100 MHz. **Attenuation:** 20 to 40 dB (volt ratio). **Shielded Power Cord Attenuation:** Up to 60 dB. **Noise Protection:** Transverse and common modes. **Leakage Current:** Leakage to ground lead does not exceed 10 microamperes. **Environment:** For indoor use in dry locations.

Model LM 3200 Power Line Conditioner—Net Each **$227.20**

LM 4000 SERIES

Models LM 4100 and LM 4200 offer the best spike protection with the highest overvoltage handling capability and the quickest response time. The series also offers the best noise suppression in both the common and transverse modes. Both models have RFI-shielded power cords and isolated, hospital-grade, double-wipe, grounding outlets for additional protection against noise. Included in both models is an AC voltmeter with color-coded scale to visually indicate that an undervoltage condition exists. An undervoltage sensing and warning system is also included. When the incoming line voltage drops to 105 volts or less, the warning system, consisting of a red light and a buzzer, will activate. If the low voltage is still within the operating range of the equipment, the operator can then choose to shut off the buzzer by means of a cutoff switch. The red pilot light, however, remains on, acting as a constant reminder until the line undervoltage is corrected.

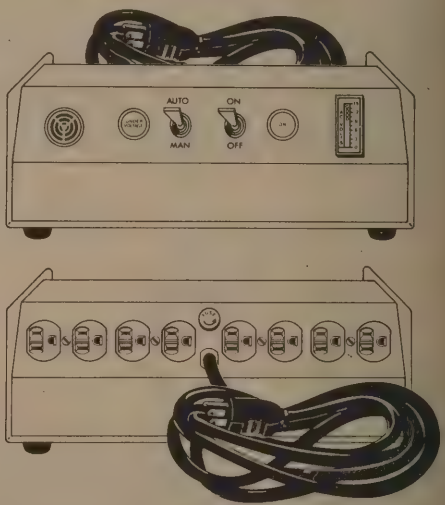
MODEL LM 4100



The Model LM 4100 is designed for rack or panel mounting with end slots on 18 1/4″ × 3″ centers. Eight hospital-grade, "U" ground outlets are provided on the back of the unit. The front of the unit contains the master on-off switch, voltmeter, auto-manual switch, warning buzzer, and warning light. Case is steel with baked-on black enamel finish; front cover is spun aluminum, outlets are ivory, power cord is black, switches are black, on indicator light is green, and undervoltage indicator light is red. A seven-stage filter network provides voltage spike and noise protection with each outlet having isolated spike protection. Front plate measures 19″ long × 3 15/32″ wide; the back cover measures 17″ long × 3 11/32″ wide × 2 3/8″ deep. Unit weighs 15 lbs. **Max. Spike Energy Dissipation:** 300 joules one time, 150 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 10,000 volts. **Clamping Spike Voltage:** ±20 volts as it appears on the sine wave; 190 volts, max. **Max. Spike Current:** 6000 amps. **Surge Current Clamping Ratio:** No greater than 1.63:1. **Clamping Response Time:** 5 nanoseconds or less. **Noise Rejection Frequency Range:** 1 kHz to 100 MHz. **Attenuation:** 40 to 60 dB (volt ratio). **Shielded Power Cord Attenuation:** Up to 60 dB. **Noise Protection:** Transverse and common modes. **Leakage Current:** Leakage to ground lead does not exceed 10 microamperes. **Environment:** For indoor use in dry locations.

Model LM 4100 Power Line Conditioner—Net Each **$654.45**

MODEL LM 4200



The Model 4200 is a console type unit with sloping front and back panels; the front panel contains on-off switch, auto-manual switch, voltmeter, "on" indicator light, undervoltage indicator light, and warning buzzer. The back panel contains 8 outlets and a fuse holder. The eight outlets are hospital-grade, "U" ground type. Each has isolated spike protection. Case is steel with woodgrain vinyl finish; outlets are ivory, power cord is black, switches are black, "on" indicator light is green, warning indicator light is red. A seven-stage filter network provides voltage spike and noise protection. Unit measures 13 1/2″ long × 4 1/8″ wide × 4 7/8″ high and weighs 15 lbs. **Max. Spike Energy Dissipation:** 300 joules one time, 150 joules with repeated usage, self-restoring. **Max. Spike Voltage:** 10,000 volts. **Clamping Spike Voltage:** ±20 volts as it appears on the sine wave; 190 volts, max. **Max. Spike Current:** 10,000 amps. **Surge Current Clamping Ratio:** No greater than 1.63:1. **Clamping Response Time:** 5 nanoseconds or less. **Noise Rejection Frequency Range:** 1 kHz to 100 MHz. **Attenuation:** 40 to 60 dB (volt ratio). **Shielded Power Cord Attenuation:** Up to 60 dB. **Mode Noise Protection:** Transverse and common. **Leakage Current:** Leakage to ground lead does not exceed 10 microamperes. **Environment:** For indoor use in dry locations.

Model LM 4200 Power Line Conditioner—Net Each **$681.75**

NYLON CABLE HOUSINGS

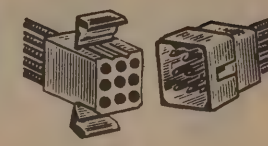
ily reliable, versatile connectors rated volts per circuit. Nylon housings are lable in miniature size for .062″ pin dnals, or standard size for .093″ pin dnals (supplied less terminals). Ideal ise in business machines, appliances, munications, instrumentation, and r demanding applications. Available integrally molded ears for easy panel nting. All types (except single circuit) polarized. Both male and female pin dnals of the same mating diameters be intermixed in the same housing. minals can be extracted and easily aced, using ejector tools. Housings are Recognized.



(A)



(B)



(C)

MINIATURE NYLON PLUG HOUSINGS

ept .062″ pin terminals, listed at right.

aldom / Molex umber	Fig.	No. of Circuits	Amps. per Circ.	Std. Pkg. Qty.	Std. Pkg. Net/ Pkg.	Net per 100 100-499	Net per 100 500-999	Net per 100 1000 Up
06-2011	A	1	5	10	$1.35	$ 8.85	$ 6.15	$ 4.75
06-2031	B	3	5*	10	2.35	15.50	11.50	8.25
06-2032	B	3	5	10	2.35	15.50	11.50	8.25
06-2041	B	4	5*	10	4.85	32.25	23.95	16.65
06-2042	B	4	5	10	4.85	32.25	23.95	16.65
06-2054	B	5	5*	5	1.75	22.90	16.95	12.30
06-2055	B	5	5	5	1.75	22.90	16.95	12.30
06-2061	C	6	5	5	1.55	20.55	14.95	11.25
06-2062	C	6	5*	5	1.60	21.60	15.70	11.80
06-2081	B	8	5	5	1.50	19.75	13.75	10.70
06-2091	C	9	5*	5	1.65	22.10	15.85	12.05
06-2092	C	9	5	5	1.65	22.10	15.85	12.05
06-2121	C	12	5*	5	1.85	24.65	18.25	13.55
06-2122	C	12	5	5	1.85	24.65	18.25	13.55
06-2151	C	15	5*	5	2.80	37.40	26.20	20.30
06-2152	C	15	5	5	2.80	37.40	26.20	20.30
06-2241	C	24	4*	5	4.35	58.30	40.55	31.45
06-2242	C	24	4	5	4.35	58.30	40.55	31.45
06-2361	C	36	4*	5	5.10	68.30	47.40	36.70
06-2362	C	36	4	5	5.05	67.50	46.80	36.20

STANDARD NYLON PLUG HOUSINGS

ept .093″ terminals, listed at right.

09-2011	A	1	12	10	$1.40	$ 9.40	$ 6.50	$ 5.05
09-2021	B	2	12*	10	2.60	17.20	12.80	8.85
09-2022	B	2	12	10	2.20	14.80	10.25	7.95
09-2031	B	3	12*	10	2.50	16.70	11.60	9.00
09-2032	B	3	12	10	2.40	15.95	11.05	8.55
09-2041	B	4	9*	10	3.00	20.00	11.90	10.75
09-2042	B	4	9	10	3.00	20.00	13.90	10.75
09-2052	B	5	9	5	1.85	24.65	17.25	13.45
09-2061	C	6	9*	5	2.05	26.85	17.80	13.65
09-2062	C	6	9	5	2.05	26.85	17.80	13.65
09-2091	C	9	9*	5	2.10	27.90	19.35	15.00
09-2092	C	9	9	5	2.25	30.00	20.80	16.10
09-2121	C	12	7.5	5	2.25	30.10	20.95	16.25
09-2122	C	12	7.5*	5	2.40	32.00	22.30	17.30
09-2151	C	15	7.5	5	3.25	43.35	30.05	23.20
09-2152	C	15	7.5*	5	3.05	40.80	30.35	21.05

ith integrally molded mounting ears.

STANDARD NYLON RECEPTACLE HOUSINGS

cept .093″ terminals. With holding tabs and mounting ears.

09-1011	A	1	12†	10	$1.10	$ 7.35	$ 5.10	$ 3.95
09-1021	B	2	12	10	2.50	16.70	12.40	8.60
09-1022	B	2	12	10	2.35	15.60	10.80	8.30
09-1031	B	3	12	10	2.45	16.20	11.25	8.70
09-1032	B	3	12	10	2.40	15.95	11.10	8.60
09-1041	B	4	9	10	3.20	21.45	14.85	11.50
09-1052	B	5	9†	5	2.35	31.20	22.40	16.90
09-1061	C	6	9	5	2.15	28.45	18.85	14.30
09-1091	C	9	9	5	2.25	29.80	20.15	15.60
09-1121	C	12	7.5	5	2.55	34.10	23.70	18.40
09-1151	C	15	7.5	5	2.55	34.10	23.70	18.40

olding tabs only. ‡Without mounting ears or holding tabs.

CABLE CONNECTOR DESIGNER KITS



WM-50

Ideal for the creative designer, repairman and experimenter. Eliminates need of searching for proper connectors or tools; everything under one lid, covering all circuit capacities with male and female housings, terminals and crimping tool. Separate compartments for connector elements, numbered and described for easy part reordering. **Lightweight, unbreakable case** has snap-lock to avoid spills and mix-ups.

aldom No. WM-50 Designer Kit—Same as WM-72, but parts ver from single circuit to 15-circuit designs (250 V and up to 12 ps per circuit); and, totals 45 complete connectors only. All ve pin terminal size 0.093″ dia. With crimping tool, pin terminal ector tool and case. Net Each..... **$35.95**

aldom No. WM-72 Designer Kit—Contains all parts needed to semble male and female connectors from single circuit to 36-rcuit designs (250 V and up to 5 amps per circuit); totals 56 nnectors. All have pin terminal size 0.062″ dia. With crimping ol, pin terminal ejector tool and case. Net Each..... **$35.95**

ots of 3500–6999 and 7000 Up. §Lots of 1000–4999, 5000–9999, and 10000 Up.

MINIATURE NYLON RECEPTACLE HOUSINGS

Accept .062″ terminals. With holding tabs and mounting ears.

03-06-1011	A	1	5†	10	$1.15	$ 7.65	$ 5.30	$ 4.10
03-06-1031	B	3	5	10	2.45	16.25	12.05	8.85
03-06-1032	B	3	5†	10	2.45	16.25	12.05	8.85
03-06-1041	B	4	5	10	5.10	34.00	25.00	17.55
03-06-1055	B	5	5	5	2.20	29.50	21.55	15.80
03-06-1061	C	6	5	5	1.80	23.90	16.85	13.00
03-06-1081	B	8	5	5	1.90	25.30	17.60	13.70
03-06-1091	C	9	5	5	1.90	25.35	17.95	13.80
03-06-1092	C	9	5†	5	1.90	25.35	17.95	13.80
03-06-1121	C	12	5	5	2.10	28.30	20.60	15.50
03-06-1122	C	12	5†	5	2.10	28.30	20.60	15.50
03-06-1151	C	15	5	5	3.35	44.85	31.20	24.25
03-06-1152	C	15	5†	5	3.35	44.85	31.20	24.25
03-06-1241	C	24	5	5	4.35	58.30	40.50	31.40
03-06-1242	C	24	5†	5	4.35	58.30	40.50	31.40
03-06-1361	C	36	4	5	5.30	70.80	49.10	38.00
03-06-1362	C	36	4‡	5	5.30	70.50	48.90	37.80

HOUSING DIMENSIONS

MINIATURE HOUSINGS FOR .062″ TERMINALS

Plugs are .750″ deep; receptacles, .781″ deep.

Waldom / Molex No. 03-06-	Plug Dimensions Overall W.	Plug Dimensions Overall H.	Plug Dimensions Mounting Hole, In.	Receptacle Dimensions Overall W.	Receptacle Dimensions Overall H.	Receptacle Dimensions Mounting Hole, In.
2011, 1011	.296″	dia.	.....	.203″	dia.	.....
2031, 1031	.281″	.578″	.318 x .754	.203″	.484″	.265 x .650
2041, 1041	.296″	.734″	.....	.203″	.625″	.....
2054, 1055	.296″	.875″	.....	.203″	.781″	.265 x .940
2062, 1061	.578″	.453″	.....	.484″	.343″	.552 x .505
2081, 1081	.312″	1.593″	.....	.310″	1.500″	.330 x 1.715
2091, 1091	.578″	.578″	.615 x .752	.531″	.484″	.552 x .650
2121, 1121	.578″	.718″	.614 x .903	.531″	.625″	.563 x .795
2151, 1151	.593″	.859″	.614 x 1.042	.531″	.765″	.563 x .934
2241, 1241	.750″	.930″	.765 x 1.182	.750″	.920″	.715 x 1.0719
2361, 1361	.812″	1.640″	.825 x 1.795	.859″	1.515″	.707 x 1.677

STANDARD HOUSINGS FOR .093″ TERMINALS

Plugs are .968″ deep; receptacles, 1.000″ deep except 03-09-1031, 03-09-1061 thru 03-09-1151, 1.031″ deep.

Waldom / Molex No. 03-09-	Plug Dimensions Overall W.	Plug Dimensions Overall H.	Plug Dimensions Mounting Hole, In.	Receptacle Dimensions Overall W.	Receptacle Dimensions Overall H.	Receptacle Dimensions Mounting Hole, In.
2011, 1011	.358″	dia.	.....	.234″	dia.	.....
2021, 1021	.352″	.640″	.800 x .375	.250″	.531″	.705 x .312
2031, 1031	.338″	.773″	.933 x .375	.234″	.671″	.840 x .312
2041, 1041	.338″	.968″	1.131 x .375	.236″	.875″	1.038 x .312
2052, 1052	.343″	1.171″	.....	.234″	1.062″	.....
2061, 1061	.640″	.531″	.750 x .695	.632″	.437″	.718 x .600
2091, 1091	.734″	.756″	.937 x .725	.625″	.671″	.828 x .725
2121, 1121	.734″	.975″	1.155 x .760	.640″	.870″	1.050 x .655
2151, 1151	.734″	1.169″	1.343 x .760	.632″	1.067″	1.240 x .655

PIN TERMINALS FOR NYLON HOUSINGS

Spring tempered tin-plated brass. .093″ dia. types fit standard housings; .062″ dia. types(*) fit miniature housings. Std. pkg., 100. Style **C** in table below is for crimp, **S** for solder, **PC** for printed circuit and **BC** for bead chain.

Waldom/Molex Number Male	Waldom/Molex Number Female	Style	For Wire Size	Net per 100	Net per 1000 1000-3999	Net per 1000 4000-11999	Net per 1000 12000 Up
02-09-2103	02-09-1103	C	14–18	$5.55	$34.65	$25.40	$19.20
02-09-2118	02-09-1118	C	18–24	5.55	34.65	25.40	19.20
02-09-2143	02-09-1143	C	22–30	5.55	34.64	25.40	19.20
					1000-2499	2500-4999	5000-9999
02-09-2134	02-09-1134§	PC	.....	$4.30	$29.45	$22.70	$18.20
R-93-12	.....	BC	.....	5.20	34.70	23.90	18.40
.....	M-93-102	BC	.....	5.90	39.35	27.15	20.90
R-93-31	.....	BC	.....	5.25	34.95	24.10	18.60
.....	M-118-95A	BC	.....	9.80	65.25	45.00	34.60
R-62-3	.....	BC*	.....	7.75	46.65	32.20	24.75
R-62-4	.....	BC*	.....	8.65	57.45	39.60	30.50
R-62-5	.....	BC*	.....	9.40	62.65	43.20	33.20
					1000-2999	3000-5999	6000-11999
02-06-2103	02-06-1103	C*	18–22	$5.85	$50.15	$39.60	$23.90
02-06-2132	02-06-1132	C*	22–30	5.85	50.15	39.60	23.90
					4000-7999	8000 Up	
.....	02-08-1102	C	16–28	$7.60	$43.40	$34.65	.....
.....	02-05-1105†	C*	18–22	5.25	32.50	24.20	.....

SAMPLES, OR PRICES FOR LARGER QUANTITIES AVAILABLE ON REQUEST


K-1250A


K-7900


KSP-700


KNSP


KNS-701


KN-701


KPN-900


KHF-1250


KD-900


KN-1751ABS


KBS-500B-10


KB-500


KN-7900

MACHINED ALUMINUM KNOBS FOR INDUSTRIAL APPLICATIONS

Modern, decorative knobs of machined aluminum for industrial applications. One-piece construction and superior styling at moderate prices. For 1/8" and 1/4" shafts.

Alco No.	Dia. (Inches) Shaft	Knob	Color*	Net Each, Lots of 1-99	100-249	250-499	500-999
K-500	1/8 & 1/4	1/2	A/B/G	$1.15	$1.04	$0.98	$0.92
K-700	1/4	3/4	A/B/G	1.30	1.17	1.11	1.04
K-900	1/4	1 5/16	A/B/G	1.55	1.40	1.32	1.24
K-1250	1/4	1 1/4	A/B/G	2.30	2.07	1.96	1.84
§K-1251	1/4	1 1/4	A/B/G	2.25	2.03	1.91	1.80
†K-1251S	1/4	1 1/4	A/B	2.95	2.66	2.51	2.36

MACHINED ALUMINUM CONCENTRIC KNOB SETS

Matched knob sets for concentric shaft controls consist of two separate knobs—upper knob for inner control shaft, 1/4" dia., lower knob for outer control shaft, 1/4" dia. With four 6-32 set screws.

K-5700	1/8 & 1/4	1/2 & 3/4	A/B	$2.45	$2.21	$2.08	$1.96
K-7900	1/8 & 1/4	3/4 & 1 5/16	A/B	2.85	2.57	2.42	2.28

ALUMINUM KNOBS FOR HI-FI COMPONENTS

Deluxe knobs improve appearance and operation of quality equipment. Unique saw-cut indicator. For 1/4" shafts. Single set screws. Models KHF-1250 supplied with 2 set screws, 6-32, and have 120° spacing.

KHF-500	1/4	1/2	A/G	$1.10	$0.99	$0.94	$0.88
KHF-700	1/4	3/4	A/G	1.25	1.13	1.06	1.00
KHF-900	1/4	1 5/16	A/G	1.50	1.35	1.28	1.20
KHF-1250	1/4	1 1/4	A/G	2.20	1.98	1.87	1.76

MACHINED ALUMINUM KNOBS WITH SKIRTS

Excellent matching knob group to Alco K Series, above. KS models have solid aluminum skirts. KSP models have clear acrylic plastic skirts. For 1/8" and 1/4" shafts. Choice of natural aluminum, or black anodizing.

KS-500	1/8–1/4	3/4	A/B	$1.50	$1.35	$1.28	$1.20
KS-700	1/4	1 1/8	A/B	1.75	1.58	1.49	1.40
KS-900	1/4	1 13/32	A/B	2.35	2.12	2.00	1.88
KSP-700	1/4	1 1/8	A/B	1.70	1.53	1.45	1.36
KSP-900	1/4	1 13/32	A/B	1.95	1.76	1.66	1.56

DIAMOND KNURL ALUMINUM KNOBS

Non-slipping diamond knurl knobs have conical top, hairline indicators. Colors in natural anodized aluminum, black or gold finish. For 1/8" or 1/4" shafts, as specified.

KD-500	1/8–1/4	1/2	A/B/G	$1.25	$1.13	$1.06	$1.00
KD-700	1/4	3/4	A/B/G	1.40	1.26	1.19	1.12
KD-900	1/4	1 5/16	A/B/G	1.70	1.53	1.45	1.36
KD-1250	1/4	1 1/4	A/B/G	2.20	1.98	1.87	1.76

STRAIGHT KNURL ALUMINUM KNOBS

Straight knurl machined aluminum knobs with hairline indicators. Choice of solid anodized colors and two-tone models. Models KN-1750 jumbo series have 1 3/4" dia. size, 1.750" w. x .62" h. Fingertip spinner knob has .512" dia. aluminum disc mounted on top. For 1/8" and 1/4" shafts, as specified.

KN-500	1/8–1/4	1/2	A/B	$1.20	$1.08	$1.02	$0.96
KN-700	1/4	3/4	A/B	1.35	1.22	1.15	1.08
KN-900	1/4	1 5/16	A/B	1.60	1.44	1.36	1.28
KN-1250	1/4	1 1/4	A/B	2.35	2.12	2.00	1.88
§KN-1251	1/4	1 1/4	A/B	2.30	2.07	1.96	1.84
§KN-1751	1/4	1 3/4	A/B	3.95	3.56	3.36	3.16
†KN-1751S	1/4	1 3/4	A/B	4.65	4.19	3.95	3.72
KN-500	1/8–1/4	1/2	AB/BA	1.45	1.31	1.23	1.16
KN-700	1/4	3/4	AB/BA	1.60	1.44	1.36	1.28
KN-900	1/4	1 5/16	AB/BA	1.85	1.67	1.57	1.48
KN-1250	1/4	1 1/4	AB/BA	2.80	2.52	2.38	2.24
KN-1751	1/4	1 3/4	AB/BA	4.25	3.83	3.61	3.40
†KN-1751S	1/4	1 3/4	AB/BA	4.65	4.19	3.95	3.72

*Add suffix **A** for natural, **B** for black, **G** for gold, **AB** for natural body with black top, **BA** for black body with natural top. †Spinner less hairline. §Less hairline.

CONCENTRIC KNOBS WITH STRAIGHT KNURL

Straight knurl concentric aluminum knobs for dual shaft controls where space is at a premium when mounting many control knobs. Natural aluminum finish has black indicator line, black finish knob has white indicator line. Diameter top shaft, 1/8", bottom shaft, 1/4".

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KN-5700	1/8 & 1/4	1/2 & 3/4	A/B	$2.55	$2.30	$2.17	$2.04
KN-7900	1/8 & 1/4	3/4 & 1 5/16	A/B	2.95	2.66	2.51	2.36

KNURLED KNOBS WITH ARROWHEAD POINTER

Straight knurled machined aluminum knobs with engraved arrowhead pointer. Models KNS knobs have an added aluminum skirt. For 1/4" and 1/8" shafts. Black anodized body with natural finish top.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KN-501	1/8–1/4	1/2	A/B	$1.30	$1.17	$1.11	$1.04
KN-701	1/4	3/4	A/B	1.45	1.31	1.23	1.16
KN-501	1/8–1/4	1/2	BA	1.55	1.40	1.32	1.24
KN-701	1/8 & 1/4	3/4	BA	1.70	1.53	1.45	1.36
KNS-501	1/8 & 1/4	1/2	A/B	1.65	1.49	1.40	1.32
KNS-701	1/4	3/4	A/B	1.85	1.67	1.57	1.48
KNS-501	1/8 & 1/4	1/2	BA	1.90	1.71	1.62	1.52
KNS-701	1/8 & 1/4	3/4	BA	2.10	1.89	1.79	1.68

KNURLED ONE-PIECE ALUMINUM POINTER KNOBS

Popular size one-piece aluminum pointer knob mates with KN Series straight knurl knobs. Finished in natural aluminum, or black anodized, or natural body with black top, or black body with natural top. For 1/8" and 1/4" shafts, as specified.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KPN-500	1/8–1/4	1/2	A/B	$2.85	$2.57	$2.42	$2.28
KPN-700	1/4	3/4	A/B	2.75	2.48	2.34	2.20
KPN-500	1/8 & 1/4	1/2	AB/BA	2.85	2.57	2.42	2.28
KPN-700	1/4	3/4	AB/BA	3.00	2.70	2.55	2.40
KPN-900	1/4	1 5/16	A/B	3.20	2.88	2.72	2.56
KPN-900	1/4	1 5/16	AB/BA	3.55	3.20	3.02	2.84

ALUMINUM CONTROL KNOBS WITH KNURL

Fill the requirements for most rotary switches having a 1/8" or 1/4" diameter shaft. Shaft hole is much deeper than standard miniature knobs. Models KBS knobs have added skirt with engraved numerals 0–9, with 36° spacing. Anodized finish in black or natural.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KB-500	1/8 & 1/4	1/2	A/B	$1.30	$1.17	$1.11	$1.04
KB-700	1/4	3/4	A/B	1.45	1.31	1.23	1.16
KB-900	1/4	1 5/16	A/B	1.70	1.53	1.45	1.36
KBS-500	1/8 & 1/4	1/2	A/B	1.85	1.67	1.57	1.48
KBS-500-10	1/8 & 1/4	1/2	A/B	2.10	1.89	1.79	1.68

KNURLED KNOBS WITH PLASTIC SKIRTS AND INDICATOR LINES

Straight knurled, machined aluminum knobs with plastic skirt and straight line pointer. For 1/4" shaft. Available in natural (A) or black (B) anodized finish.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
KNSP-700A-1/4	1/4	3/4	A	$1.75	$1.58	$1.49	$1.40
KNSP-700B-1/4	1/4	3/4	B	1.75	1.58	1.49	1.40
KNSP-900A-1/4	1/4	1 5/16	A	2.00	1.88	1.70	1.60
KNSP-900B-1/4	1/4	1 5/16	B	2.00	1.88	1.70	1.60

SHAFT REDUCERS

Alco No. KR-1—1/4" to 1/8" reducer. Net Each..... $.15
Alco No. KR-2—1/4" to 3/16" reducer. Net Each..... .15

COLLET SERIES CONTROL KNOBS

Unique mounting technique is used on all Collet Series knobs, allowing a firm attachment to any shaft without need of exposed set screws. This feature enhances appearance and provides adequate protection from shock hazard. The collet fits over the shaft and is locked in place by tightening either a screw or nut within it is fully concealed in the head of the knob. No special tools are required and there is no risk of damage to the knob or shaft. Dials, figure dials and other components of the system fit together to form an integrated device with complete freedom to select exactly the right combination for any specific application. If necessary, parts can be substituted and the knob appearance will change to meet a new requirement. To enhance the elegant appearance of today's electronic equipment, special attention has been given to conceal the mounting hardware on this new series of control knobs.



AR1/4 AS1/4 AT1/2

AR1/AR4 SERIES—FLUTED STYLE

Available in four styles: less indicator line, supplied with Mod cap; with bar pointer and indicator line, supplied with Mod cap; with arrow indicator, supplied with dome cap; less indicator line, supplied with metalic inlay cap.

Alco No.	Dia. (Inches) Shaft	Knob	Color*	Net Each, Lots of 1-99	100-249	250-499	500-999
WITH MOD CAP—NO INDICATOR LINE							
R1-222-W2-202	1/8	.394	B	$0.65	$0.59	$0.55	$0.52
R1-322-W2-302	1/8	.591	B	.70	.63	.60	.56
R1-352-W2-302	1/4	.591	B	.70	.63	.60	.56
R1-422-W2-402	1/8	.827	B	.80	.72	.68	.64
R1-452-W2-402	1/4	.827	B	.80	.72	.68	.64
R1-552-W2-502	1/4	1.100	B	1.00	.90	.85	.80
R1-652-W2-602	1/4	1.420	B	1.15	1.04	.98	.92
WITH BAR POINTER AND IND. LINE—MOD CAP							
R4-222-W2-202	1/8	.394	B	.80	.72	.68	.64
R4-322-W2-302	1/8	.591	B	.85	.77	.72	.68
R4-352-W2-302	1/4	.591	B	.85	.77	.72	.68
R4-422-W2-432	1/8	.827	B	.95	.86	.81	.76
R4-452-W2-432	1/4	.827	B	.95	.86	.81	.76
R4-552-W2-532	1/4	1.100	B	1.15	1.04	.98	.92
WITH DOME CAP AND ARROW INDICATOR							
R1-222-W1-212	1/8	.394	B	.70	.63	.60	.56
R1-322-W1-312	1/8	.591	B	.75	.68	.64	.60
R1-352-W1-312	1/4	.591	B	.75	.68	.64	.60
R1-422-W1-412	1/8	.827	B	.85	.77	.72	.68
R1-452-W1-412	1/4	.827	B	.85	.77	.72	.68
R1-552-W1-512	1/4	1.100	B	1.05	.95	.89	.84
R1-652-W1-612	1/4	1.420	B	1.20	1.08	1.02	.96
WITH METALIC INLAY CAP—NO IND. LINE							
R1-222-W3-202	1/8	.394	B	.75	.68	.64	.60
R1-322-W3-302	1/8	.591	B	.80	.72	.68	.64
R1-352-W3-302	1/4	.591	B	.80	.72	.68	.64
R1-422-W3-402	1/8	.827	B	.95	.86	.81	.76
R1-452-W3-402	1/4	.827	B	.95	.86	.81	.76
R1-552-W3-502	1/4	1.100	B	1.10	.99	.94	.88
R1-652-W3-602	1/4	1.420	B	1.35	1.22	1.15	1.08

AS1/AS4 SERIES—SERRATED STYLE

Available in four styles: Less indicator line, supplied with Mod cap; with bar pointer and indicator line, supplied with Mod cap; with arrow indicator, supplied with dome cap; less indicator line, supplied with metalic inlay cap.

Alco No.	Dia. (Inches) Shaft	Knob	Color*	Net Each, Lots of 1-99	100-249	250-499	500-999
WITH MOD CAP—NO INDICATOR LINE							
AS1-222-W2-202	1/8	.394	B	$0.65	$0.59	$0.55	$0.52
AS1-322-W2-302	1/8	.591	B	.70	.63	.60	.56
AS1-352-W2-302	1/4	.591	B	.70	.63	.60	.56
AS1-422-W2-402	1/8	.827	B	.80	.72	.68	.64
AS1-452-W2-402	1/4	.827	B	.80	.72	.68	.64
AS1-552-W2-502	1/4	1.100	B	1.00	.90	.85	.80
AS1-652-W2-602	1/4	1.420	B	1.15	1.04	.98	.92
WITH BAR POINTER AND IND. LINE—MOD CAP							
AS4-222-W2-202	1/8	.394	B	.80	.72	.68	.64
AS4-322-W2-302	1/8	.591	B	.85	.77	.72	.68
AS4-352-W2-302	1/4	.591	B	.85	.77	.72	.68
AS4-422-W2-432	1/8	.827	B	.95	.86	.81	.76
AS4-452-W2-432	1/4	.827	B	.95	.86	.81	.76
WITH DOME CAP AND ARROW INDICATOR							
AS1-222-W1-212	1/8	.394	B	.70	.63	.60	.56
AS1-322-W1-312	1/8	.591	B	.75	.68	.64	.60
AS1-352-W1-312	1/4	.591	B	.75	.68	.64	.60
AS1-422-W1-412	1/8	.827	B	.85	.77	.72	.68
AS1-452-W1-412	1/4	.827	B	.85	.77	.72	.68
AS1-552-W1-512	1/4	1.100	B	1.05	.95	.89	.84
AS1-652-W1-612	1/4	1.420	B	1.20	1.08	1.02	.96
WITH METALIC INLAY CAP							
AS1-222-W3-202	1/8	.394	B	.75	.68	.64	.60
AS1-322-W3-302	1/8	.591	B	.80	.72	.68	.64
AS1-352-W3-302	1/4	.591	B	.80	.72	.68	.64
AS1-422-W3-402	1/8	.827	B	.95	.86	.81	.76
AS1-452-W3-402	1/4	.827	B	.95	.86	.81	.76
AS1-552-W3-502	1/4	1.100	B	1.15	1.04	.98	.92
AS1-652-W3-602	1/4	1.420	B	1.35	1.22	1.15	1.08

*B indicates Black; SB indicates Steel-Blue.

AT1/AT2 SERIES—MOD STYLE

Available in two styles: less indicator line; with indicator line. Each style available in black or steel-blue and supplied with Mod cap.

Alco No.	Dia. (Inches) Shaft	Knob	Color*	Net Each, Lots of 1-99	100-249	250-499	500-999
LESS INDICATOR LINE							
AT1-222-W2-202	1/8	.394	B	$0.70	$0.63	$0.60	$0.56
AT1-322-W2-302	1/8	.591	B	.75	.68	.64	.60
AT1-352-W2-302	1/4	.591	B	.75	.68	.64	.60
AT1-422-W2-402	1/8	.827	B	.85	.77	.72	.68
AT1-452-W2-402	1/4	.827	B	.85	.77	.72	.68
AT1-522-W2-502	1/4	1.100	B	1.05	.95	.89	.84
AT1-652-W2-602	1/4	1.420	B	1.20	1.08	1.02	.96
AT1-227-W2-207	1/8	.394	SB	.75	.68	.64	.60
AT1-327-W2-307	1/8	.591	SB	.80	.72	.68	.64
AT1-357-W2-307	1/4	.591	SB	.80	.72	.68	.64
AT1-427-W2-407	1/8	.827	SB	.90	.81	.77	.72
AT1-457-W2-407	1/4	.827	SB	.90	.81	.77	.72
AT1-557-W2-507	1/4	1.100	SB	1.10	.99	.94	.88
AT1-657-W2-607	1/4	1.420	SB	1.25	1.13	1.06	1.00
WITH INDICATOR LINE							
AT2-222-W2-202	1/8	.394	B	.75	.68	.64	.60
AT2-322-W2-302	1/8	.591	B	.80	.72	.68	.64
AT2-352-W2-302	1/4	.591	B	.80	.72	.68	.64
AT2-422-W2-402	1/8	.827	B	.95	.86	.81	.76
AT2-452-W2-402	1/4	.827	B	.95	.86	.81	.76
AT2-552-W2-502	1/4	1.100	B	1.10	.99	.94	.88
AT2-652-W2-602	1/4	1.420	B	1.25	1.13	1.06	1.00
AT2-227-W2-207	1/8	.394	SB	.80	.72	.68	.64
AT2-327-W2-307	1/8	.591	SB	.90	.81	.77	.72
AT2-357-W2-307	1/4	.591	SB	.90	.81	.77	.72
AT2-427-W2-407	1/8	.827	SB	.95	.86	.81	.76
AT2-457-W2-407	1/4	.827	SB	.95	.86	.81	.76
AT2-557-W2-507	1/4	1.100	SB	1.15	1.04	.98	.92
AT2-657-W2-607	1/4	1.420	SB	1.30	1.17	1.11	1.04

*B indicates Black; SB indicates Steel-Blue.

OUR STOCKS ARE COMPLETE AND UP TO DATE. WRITE US FOR INFORMATION AND PRICING ON ALL NEW OR UNLISTED TEMS. NO SPECIAL ORDER NUMBERS NECESSARY—JUST USE THE MANUFACTURER'S MODEL NUMBERS.


PKES-90B


PH-13-16


PK-1100B


PK-1109B


PKA-50B


PKGC-690BP


PK-1108B


PKP-194B


PKS-90B-10


PKC-1111B


PKAP-70B


PKA-190B


PKG-125B


PKGP-100B


PKS-1105B


PFM-80B


PKN


PKT


PKDT

STRAIGHT KNURL PLASTIC KNOBS WITH SKIRTS

Straight knurl knobs with white dot indicators have deep precision serrations in molded black plastic. Spun aluminum inlay in top offers two-tone effect. Has molded-in brass insert bushing, hex-head knurl cup point, self-locking 6–32 set screw. PKD models have aluminum skirts. PKD-10 models have aluminum skirts with 0–10 markings. For ¼″ and ⅛″ shafts, as specified.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PK-50B	⅛ & ¼	.748	B	$0.55	$0.50	$0.47	$0.44
PK-70B	¼	.984	B	.60	.54	.51	.48
PK-90B	¼	1.245	B	.65	.59	.55	.52
PKD-60B	⅛ & ¼	.79	B	.70	.63	.60	.56
PKD-70B	¼	1.03	B	.75	.68	.64	.60
PKD-100B	¼	1.29	B	.85	.77	.72	.68
PKD-60B-10	⅛ & ¼	.79	B	.75	.68	.64	.60
PKD-70B-10	¼	1.03	B	.80	.72	.68	.64
PKD-100B-10	¼	1.29	B	1.35	1.22	1.15	1.08

FLUTED PLASTIC CONTROL KNOBS

Deep fluted plastic control knobs have spun aluminum inlay in top. PKB and PKES models have skirts. PKEC models are concentric sets.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PKB-70B	¼	1.12	B	$0.60	$0.54	$0.51	$0.48
PKB-90B	¼	1.5	B	.85	.77	.72	.68
PKE-60B	⅛ & ¼	.626	B	.60	.54	.51	.48
PKE-60R	⅛	.626	R	.65	.59	.55	.52
PKE-90B	¼	.89	B	.70	.63	.60	.56
PKEC-690B	⅛ & ¼	.63 & .885	B	1.35	1.22	1.15	1.08
PKEC-690BP	⅛ & ¼	.626 & 1.024	B	1.65	1.49	1.40	1.32
PKEC-9120B	⅛ & ¼	.890 & 1.291	B	1.85	1.67	1.57	1.48
PKES-60B	⅛ & ¼	.75	B	.65	.59	.55	.52
PKES-70B	¼	.855	B	.70	.63	.60	.56
PKES-90B	¼	1.012	B	.75	.68	.64	.60
PKES-120B	¼	1.296	B	.90	.81	.77	.72
PKES-140B	¼	1.496	B	1.25	1.13	1.06	1.00
PKES-159B	¼	1.768	B	1.55	1.40	1.32	1.24

PLASTIC POINTER KNOBS AND CONCENTRIC SETS

Plastic pointer knobs have spun aluminum inlay on top. PKP models have bar pointer. PKC models are concentric sets. Black or red finish. For ¼″ or ⅛″ shafts, as specified.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PK-1100B	⅛ & ¼	.700	B	$0.60	$0.54	$0.51	$0.48
PK-1100R	⅛ & ¼	.700	R	.65	.59	.55	.52
PKC-1111B	⅛ & ¼	.875 & .643	B	1.45	1.31	1.23	1.16
PKC-1111RB	⅛ & ¼	.875 & .643	R/B	1.50	1.35	1.28	1.20

STRAIGHT KNURL TUNING CONTROL KNOBS

Black plastic straight knurl tuning control knobs have recessed aluminum inlays. For ¼″ diameter shafts.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PH-15-18	¼	.995	B	$0.60	$0.54	$0.51	$0.48
PH-14-17	¼	1.2	B	.70	.63	.60	.56
PH-13-16	¼	1.395	B	.80	.72	.68	.64

RIBBED KNURL PLASTIC KNOBS WITH SKIRTS AND POINTERS

Slip-proof knurl construction with extended skirts, white indicators. Model PKA-190B is less skirt. Models PKAP have bar pointers. Black finish. For ⅛″ and ¼″ diameter shafts, as specified.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PKA-50B	⅛ & ¼	.795	B	$0.60	$0.54	$0.51	$0.48
PKA-70B	¼	.984	B	.80	.72	.68	.64
PKA-90B	¼	1.37	B	1.20	1.08	1.02	.96
PKA-190B	¼	1.89	B	3.60	3.24	3.06	2.88
PKAP-50B	⅛ & ¼	.795	B	.70	.63	.60	.56
PKAP-70B	¼	.98	B	.90	.81	.77	.72
PKAP-90B	¼	1.365	B	1.30	1.17	1.11	1.04

LEXINGTON SERIES STRAIGHT KNURL PLASTIC KNOBS AND CONCENTRIC SETS

Handsome black or red plastic knobs with knurl serrations, spun aluminum inlay. PKGC models are black concentric sets. PKGP models have pointers. PKGC-BP models are concentric sets with pointers. For ⅛″ and ¼″ diameter shafts, as specified.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PKG-40B	⅛	.437	B	$0.60	$0.54	$0.51	$0.48
PKG-40R	⅛	.437	R	.65	.59	.55	.52
PKG-50B	⅛ & ¼	.551	B	.65	.59	.55	.52
PKG-50R	⅛ & ¼	.551	R	.70	.63	.60	.56
PKG-60B	⅛ & ¼	.673	B	.65	.59	.55	.52
PKG-60R	⅛ & ¼	.673	R	.70	.63	.60	.56
PKG-70B	⅛ & ¼	.74	B	.70	.63	.60	.56
PKG-70R	⅛ & ¼	.74	R	.75	.68	.64	.60
PKG-90B	⅛ & ¼	.858	B	1.05	.95	.89	.84
PKG-90R	⅛ & ¼	.858	R	1.25	1.13	1.06	1.00
PKG-100B	¼	1.055	B	1.40	1.26	1.19	1.12
PKG-125B	¼	1.248	B	1.40	1.26	1.19	1.12
PKGC-570B	⅛ & ¼	.551 & .74	B	1.75	1.58	1.49	1.40
PKGC-690B	⅛ & ¼	.673 & .854	B	2.35	2.12	2.00	1.88
PKGC-910B	⅛ & ¼	.858 & 1.055	B	1.00	.90	.85	.80
PKGP-70B	¼	.74	B	1.15	1.04	.98	.92
PKGP-90B	¼	.862	B	1.30	1.17	1.11	1.04
PKGP-100B	¼	1.059	B	1.40	1.26	1.19	1.12
PKGC-570BP	¼	.551 & .74	B	1.75	1.58	1.49	1.40
PKGC-690BP	¼	.673 & .854	B	1.85	1.67	1.57	1.48
PKGC-910BP	¼	.858 & 1.059	B	2.35	2.12	2.00	1.88

PLASTIC CONTROL KNOBS

Knurled plastic control knobs with aluminum inlay on top. Model PKP has bar pointers. Models PKS have aluminum dial skirts. Models PKS-11 have skirts with 0–10 markings. Model PFM is a seven-sided knob. For ¼″ diameter shafts.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PK-1108B	¼	1.006	B	$0.65	$0.59	$0.55	$0.52
PKP-194B	¼	1.02	B	1.20	1.08	1.02	.96
PKP-1109B	¼	.875	B	.90	.81	.77	.72
PKS-90B	¼	1.425	B	.90	.81	.77	.72
PKS-90B-10	¼	1.425	B	.95	.86	.81	.76
PKS-1137B	¼	1.39	B	.95	.86	.81	.76
PKS-1137B-10	¼	1.39	B	1.00	.90	.85	.80
PKS-1104B	¼	1.12	B	.70	.63	.60	.56
PKS-1103B-10	¼	1.12	B	.75	.68	.64	.60
PKS-1106B	¼	1.16	B	.85	.77	.72	.68
PKS-1105B-10	¼	1.16	B	.90	.81	.77	.72
PKS-1132B-5	¼	1.181	B	.85	.77	.72	.68
PKS-1132B-9	¼	1.181	B	.85	.77	.72	.68
PKS-1132B-10	¼	1.181	B	.85	.77	.72	.68
PKS-1132B	¼	1.181	B	.85	.77	.72	.68
PFM-80B	¼	.826	B	.85	.77	.72	.68
PFM-100B	¼	1.005	B	1.00	.90	.85	.80

SKIRTED CONTROL KNOB

Mated family of control knobs with quadrant design bodies. Choice of smooth or 4-way bar pointers. Have vertical indicator lines with arrow heads on skirt. Concentric model also available.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PKN-60	⅛ & ¼	.575	B	$0.80	$0.72	$0.68	$0.64
PKN-70	¼	.770	B	.90	.81	.77	.72
PKN-90	¼	.960	B	.95	.86	.81	.76

LEXINGTON SERIES PLASTIC KNOBS WITH SKIRTS

Black spin cap with "Diamond-Cut" feature and skirt with indicator dot. Available for ⅛″ or ¼″ shaft.

Alco No.	Dia. (Inches) Shaft	Knob	Color	Net Each, Lots of 1-99	100-249	250-499	500-999
PKT-60B-⅛	⅛	.778	Black	$0.95	$0.86	$0.81	$0.76
PKT-60B-¼	¼	.778	Black	.95	.86	.81	.76
PKT-70B-¼	¼	1.025	Black	1.00	.90	.85	.80
PKT-100B-¼	¼	1.290	Black	1.35	1.22	1.15	1.08

APM-HEXSEAL Switch Seals





PM offers a comprehensive line of Hexseal™ switch and aft seals to meet a wide range of toggle, pushbutton, and tary switch requirements. Designed to function smoothly in en the most hostile environment, these boots can easily thstand pressures of 15 PSI internal or external. A molded- nickel plated brass hex nut serves mechanically as both a al and a mounting nut, and the silicone rubber from which e boots are fabricated absorbs shock and vibration and pro- cts the switch against salt water, acids, and ozone. These oots blend with the most demanding panel designs and are ailable in a wide variety of colors (other than standard lors). To attenuate spurious signals entering or leaving uipment through the switch mounting hole, APM has de- med a number of EMI/RFI boots with built-in knitted onel® wire, a rugged material ideally suited to this pur- se. **Temperature Range:** −94° F to +400° F. **Shelf Life:** In cess of 25 years. **Operational Life:** 50,000 actuations mini- um. **Color:** Gray. Other colors available on special order. onsult factory for custom designs. Most Hexseal™ products e QPL approved under MIL-B-5423B.

ROTARY SHAFT SEALS

Model Number	Thread Size	Shaft Size (Ins.)	Height (Ins.)	Net per 100, Lots of 1-249	250-999
NON-LOCKING					
9042x1/8	1/4-28NF2B	.125	.219	$273.34	$218.66
9040x1/8	1/4-32NEF-2B	.125	.219	102.21	81.76
9030x1/8	3/8-32NEF-2B	.125	.219	95.54	76.44
9030x1/4	3/8-32NEF-2B	.250	.219	95.54	76.44
9033x1/4	3/8-32NEF-2B	.250	.359	114.67	91.74
9060x1/4	15/32-32NS-2B	.250	.219	254.30	241.59
9063x1/4	1/2-32NS-2B	.250	.219	254.30	241.59
9065x3/8	5/8-24NEF-2B	.375	.219	251.16	238.60
9065x1/2	5/8-24NEF-2B	.500	.219	251.16	238.60
RFI/EMI SHIELDING BOOTS					
9040x1/8RFI	1/4-32NEF-2B	.125	.219	$304.87	$243.89
9030x1/4RFI	3/8-32NEF-2B	.250	.219	211.62	177.76
9033x1/4RFI	3/8-32NEF-2B	.250	.359	304.87	243.89
9060x1/4RFI	15/32-32NS-2B	.250	.219	507.90	406.31
LOCKING					
LK9040x1/8	1/4-32NS-2	.125	.500	$507.90	$406.31
LK9030x1/4	3/8-32NS-2	.250	.531	507.90	406.31

TOGGLE SWITCH BOOTS

APM Number	Toggle Height (Ins. Max.)	Throat I.D. (Ins.)	Net per 100, Lots of 1-249	250-999	1000-3999
COMPLETELY COVERS TOGGLE					
-1030†	.66	.219	$115.52	$ 92.41	$ 81.31
-5030‡	.31	.104	129.36	103.49	90.55
-5030L‡	.37	.062	131.11	104.88	91.77
-5030R‡	.28	.062	131.11	104.88	91.77
-5030B&3‡	.50	.062	129.36	103.49	90.55
ARMORED					
N-1030†	.66	.219	$149.26	$119.08	$104.49
-1030A†	.66	.219	201.76	161.41	141.24
TOGGLE OF SWITCH PROTRUDES					
N-1030B†	NA	.155-.240	$115.52	$ 92.41	$ 81.31
N-5032B‡	NA	.062-.188	131.11	104.88	91.77
RFI/EMI SHIELDING BOOTS					
N-1030RFI†	.66	.219	$304.87	$243.89	$213.41
N-5030L-RFI‡	.66	.062	304.87	243.89	213.41

†Thread Size: 15/32-32NS-2B. ‡Thread Size: 1/4-4ONS-2B.

BACK-OF-PANEL-MOUNTED BOOTS

APM Number	Throat I.D. (Ins.)	Height (Ins.)	Distance Between Mtg. Holes (Ins.)	Net per 100, Lots of 1-249	250-999	1000-3999
COMPLETELY COVERS TOGGLE (FLUSH MOUNTED)						
2030	.315	.938	1.813	$104.82	$83.85	$73.38
TOGGLE PROTRUDES						
2030B	.093	.500	1.813	$106.35	$84.83	$74.22

PUSHBUTTON BOOTS

APM Number	Thread Size	Plunger Height (Ins.)	I.D. (Ins.)	Net per 100, Lots of 1-249	250-999
COMPLETELY COVERS ROUNDED PLUNGER					
N5040-G	1/4-32NS-2B	.203	.188	$210.78	$194.55
N5040-R	1/4-40NS-2B	.203	.188	131.11	104.88
N5040	1/4-40NS-2B	.141	.188	210.78	194.55
N5045	8-40NS-2B	.188	.120	174.47	139.58
N3030	15/32-32NS-2B	.281	.422	104.98	83.99
NC3030	15/32-32NS-2B	.438	.422	104.98	83.99
NH3030	1/2-32NS-2B	.281	.422	115.52	92.41
NH3030-S	1/2-32NS-2B	.188	.422	148.86	119.08
NC3030-H	1/2-32NS-2B	.469	.422	148.86	119.08
N3040	5/8-24NEF-2B	.281	.515	165.63	132.50
COMPLETELY COVERS FLATTED PLUNGER					
NC3030-FL	15/32-32NS-2B	.313	.344	$228.29	$182.62
BUTTON PROTRUDES (TRANSPARENT FOR RESET INDICATOR)					
N3030-B	15/32-32NS-2B	.547	.250	$221.75	$177.41
NH3030-B	1/2-32NS-2B	.547	.250	221.75	177.41
EMI/RFI SHIELDING BOOTS					
N3030RFI	15/32-32NS-2B	.281	.422	$304.87	$243.89
NC3030RFI	15/32-32NS-2B	.438	.422	304.87	243.89
NH3030RFI	1/2-32NS-2B	.281	.422	333.12	266.50
N3040RFI	5/8-24NEF-2B	.281	.516	304.87	243.89

ADAPTER PUSHBUTTON BOOT

APM Number	Outside Thread†	Plunger Bushing Height (Ins.)	Net per 100, Lots of 1-249	250-999	1000-3999
3070	5/8-27NS-2A	.438	$447.98	$358.38	$313.57
3073	5/8-24NEF-2A	.438	447.98	358.38	313.57
3075	5/8-24NS-2A	.688	447.98	358.38	313.57
3077	5/8-24NEF-2A	.688	447.98	358.38	313.57

†Inside Thread: 1/2-32NS-2B

BACK OF PANEL MOUNTED BOOTS (FLUSH MOUNTED, TRANSPARENT)

APM Number	Height (Ins.)	Throat (Ins.)	Distance Between Mtg. Holes (Ins.)	Net per 100, Lots of 1-249	250-999	1000-3999
RESET BUTTON PROTRUDES						
3050B	.578	.156	1.813	$225.93	$180.74	$158.14
COMPLETELY COVERS RESET BUTTON						
3050	.906	.453	1.813	$225.93	$180.74	$158.14
3051	.399	.359	1.813	225.93	180.74	158.14

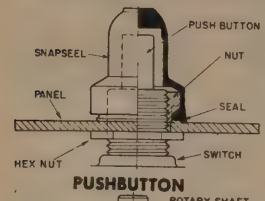
INDICATOR AND ILLUMINATED SWITCH SEALS

APM indicator and illuminated switch seals are made of RubRglas™, a transparent silicone rubber compound. This clear, elastomeric material is bonded to a metal insert, and a gasket on the underside makes a complete seal against the panel. Recommended for press-to-test lighted switch and circuit breaker applications.

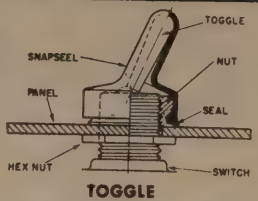
APM Number	Coupling Thread	Width (Ins.)	Height (Ins.)	Net per 100, Lots of 1-249	250-999	1000-3999
4080	13/16-32NS-2B	1.125	.812	$223.80	$212.61	$190.24
4082	11/16-32NS-2B	1.000	.750	223.80	212.61	190.24
4085	7/8-32NS-2B	1.125	.812	328.27	311.85	279.02
4086	11/16-32ND-2B	1.000	1.000	328.27	311.85	279.02
4088	.850-24NS-2B	1.125	.812	223.80	212.61	190.24

APM-HEXSEAL

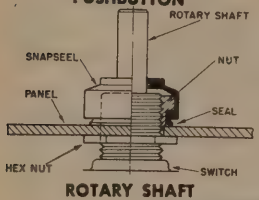
Switch Seals, Circuit Breaker Boots and Miniature Lamp Color Filters



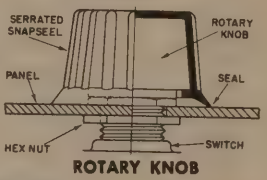
PUSHBUTTON



TOGGLE



ROTARY SHAFT



ROTARY KNOB

SNAPSEELS™ COMMERCIAL SWITCH SEALS

Snapseels™ are inexpensive, easy to install sealing devices designed to make standard commercial pushbutton, toggle, and rotary switches both water-tight and dustproof. **Boot Material and Color:** Black neoprene (other materials and colors available on special order). **Operating Temperature:** −65° F to +300° F. **Shelf Life:** Two years. **Mounting Nut Material:** Aluminum.

PUSHBUTTON BOOTS

APM Number	Button Height (In. max.)	Button Dia. (In. max.)	Bushing Dia. (In. max.)	Net per 100, Lots of 100-999	1000-2999	3000-9999
1211/5	9/16	1/4	3/8	$35.98	$32.02	$28.06
1211/10	9/16	1/4	15/32	35.98	32.02	28.06

TOGGLE SWITCH BOOT

APM Number	Toggle Height (In. max.)	Toggle Dia. max.) (In.	Bushing Dia. (In. max.)	Net per 100, Lots of 100-999	1000-2999	3000-9999
1111/4	7/8	1/4	1/2	$35.98	$32.02	$28.06
1111/9	9/16	1/8	1/4	22.55	19.77	16.97

ROTARY SHAFT SEALS

APM Number	Shaft Height (Nom. In.)	Shaft Dia. (Nom. In.)	Bushing Dia. (Nom. In.)	Net per 100, Lots of 100-999	1000-2999	3000-9999
1312/7	NA*	1/4	3/8	$35.98	$32.02	$28.06

*For range indicator or adjustment knobs on multimeters, Geiger counters, etc.—seal covers bushing, shaft protrudes.

CIRCUIT BREAKER BOOTS

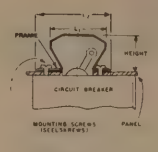
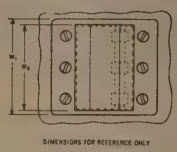


Fig. A



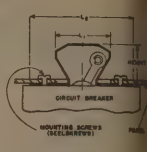
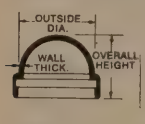


Fig. B

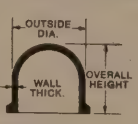
These transparent, flexible but tough silicone boots are designed to protect any circuit breaker from weather, salt spray, acids, and dirt without affecting the operation of the circuit breaker. Recommended for new equipment as well as retrofit applications. The boot assembly consists of a clear, transparent circuit breaker shield made of RubRglas™ and a cadmium plated steel frame fastened with self-sealing stainless steel screws (SEELSKREWS™). The switch handle is always visible, always accessible for On-Off switching through the flexible transparent boot. **Temperature Range:** −160° F to +500° F. **Pressure Range:** Water and dust tight. **Resistant To:** Salt spray, weather, sunlight, ozone, corona, and most acids. **Shelf Life:** In excess of 25 years. **Operational Life:** 10,000 actuations minimum. QPL approved.

APM Number	Dimensions In Inches Hgt.	L1	L2	W2	Net Each, Lots of 1-249	250-999
SINGLE GANG BREAKER						
HE-1015†	7/8	1- 7/8	2- 5/8	7/8	$6.10	$4.88
HE-1035†	1-1/8	2	3- 5/8	1-11/32	6.44	5.15
HE-1040†	1-7/64	2- 5/32	3-15/16	1- 3/32	5.62	4.49
HE-1073*‡	3/4	1-11/16	2- 1/2	13/32	4.41	3.52
HE-1076‡	1	1- 1/4	2- 1/2	33/64	4.98	3.97
1113/40‡	13/16	1 3/16	2	21/32	4.41	3.52
1077	1-1/32	1-29/32	3- 3/4	1- 1/4	11.84	11.84
DOUBLE GANG BREAKER						
HE-1020†	7/8	1- 7/8	2-21/32	1-19/32	$6.10	$4.88
HE-1077‡	1	1-21/64	2- 1/2	1-17/64	7.93	7.93
1113/42‡	13/16	1- 3/16	2	1- 1/2	5.07	4.06
TRIPLE GANG BREAKER						
HE-1050†	7/8	1- 7/8	2-21/32	2-11/32	$7.46	$5.97
HE-1070†	59/64	2	3-23/32	3- 5/32	8.78	7.03
HE-1075‡	1	1- 9/32	2- 1/2	2	10.29	8.22
HE-1080†	1	1-15/16	3- 1/2	4- 5/16	10.47	10.47
1113/43‡	13/16	1- 3/16	2	2- 1/4	5.53	4.43
OTHERS						
HE-1078‡	25/32	1-15/16	3- 3/4	4- 5/8	$9.94	$9.94
1113/26†	7/8	1_25/32	2-21/32	3- 3/32	10.76	10.76

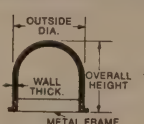
*Available on special order only. †Fig. A. ‡Fig. B.



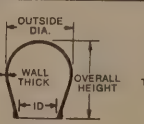
1813/1



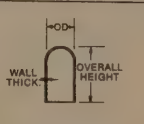
1813/2, 8, and 26



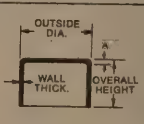
1843/2



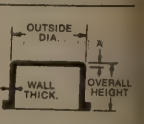
1813/16 and 17



1813/22, 23, 27, 31, and 34



1813/14



1813/15 and 20

SILIKROME® COLOR FILTERS

Silikrome® silicone color filters are a quick, easy way to add versatility and performance to any clear miniature or automotive lamp. Available in a rainbow of standard colors: Green, blue (light or dark), yellow, amber, red, and white correcting. Also available custom molded to meet specific color intensity and transmission specifications. Designed to meet the demanding requirements of military and aerospace, Silikromes can also be developed to meet any C.I.E. color level. Manufactured from a special silicone rubber compound, they cushion lamps against shock and vibration, they install easily without special tools or mounting hardware, they are fully reusable, and they act as a heat sink, increasing lamp life 5-6% over bare bulb operation. **Material:** Silicone rubber conforming to ZZ-R-765 Class III, Gr. 50. **Temperature Range:** −160° F to 500° F. **Shelf Life:** 25 years. **Resistant To:** Salt spray, weather, sunlight, ozone, and most acids. Specify color after model number when ordering. Filters meet the following military specifications: MIL-L-25467, MIL-P-7788, MIL-L-27160; some are QPL under MIL-S-22885/12D.

APM Number	Military Lamp Size	Height (In.)	O.D. (In.)	Net per 100, Lots of 100-199	200-999	1000-3999
1813/1*	T-1-3/4	9/32	9/32	$31.73	$25.38	$20.03
1813/2	T-1-3/4	5/16	1/4	31.73	25.38	20.03
1813/8	T-3-1/4	11/16	7/16	38.56	30.85	25.07
1813/26	G 3-1/2	27/64	7/16	38.56	30.85	25.07
1813/16	S8	1-7/32	1-3/64	211.66	169.33	137.58
1813/17	S6	1-15/64	51/64	182.59	146.62	118.68
1813/22	T-1	19/64	5/32	35.18	28.15	22.86
1813/23	T-3/4	7/32	1/8	40.21	32.17	26.14
1813/27	T-3-1/4	11/16	13/32	38.56	30.85	25.07
1813/31	T-1-3/4	32/64	1/4	41.05	32.84	26.69
1813/34	T-1	5/16	1/8	35.18	28.15	22.86
1813/14	T-2	13/64	9/32	51.32	41.05	33.34
1813/15	T-2	13/64	9/32	75.50	60.40	49.08
1813/20	T-2	27/64	9/32	60.34	48.26	39.21

*QPL approved per MIL-S-22885.
*Price available on request.

SEELSKREWS®

'M SEELSKREWS seal out air, water, gas, and other con-
ninants. They are designed with a groove beneath the head
accommodate a rubber O-ring which is compressed to form
absolute seal against any surface, regardless of finish. They
o are vibration resistant. The reservoir beneath the head
nfines the O-ring and permits full metal-to-metal contact.
elskrews can be removed from equipment and reused with-
t spoiling the sealing action.

SLOTTED PAN AND SLOTTED FLAT HEAD

read ize	Length, Inches	Net per 100, Lots of 1-199	200-999	1000-3999
2-56	1/4-5/8	$39.61	$29.71	$21.78
3-48	1/4-5/8	39.61	29.71	21.78
3-56	1/4-5/8	39.61	29.71	21.78
4-40	1/4	19.44	14.58	10.69
	5/16 & 3/8	19.82	14.86	10.89
	7/16 & 1/2	20.06	15.04	11.03
	9/16 & 5/8	20.72	15.55	11.40
	3/4	21.51	16.12	11.83
	7/8	22.27	16.70	12.25
	1	23.41	17.56	12.87
5-40 & 6-32	1/4	18.70	14.02	10.29
	5/16 & 3/8	19.03	14.28	10.47
	7/16 & 1/2	19.77	14.82	10.86
	9/16 & 5/8	20.38	15.28	11.21
	3/4	21.04	15.79	11.58
	7/8	21.82	16.37	12.00
	1	22.24	16.92	12.41
8-32	1/4	19.30	14.47	10.61
	5/16 & 3/8	20.32	15.24	11.18
	7/16 & 1/2	20.98	15.73	11.53
	9/16 & 5/8	22.00	16.50	12.10
	3/4	23.05	17.28	12.68
	7/8	24.05	18.04	13.23
	1	25.06	18.79	13.78
10-24	5/16 & 3/8	22.24	16.69	12.24
	7/16 & 1/2	23.13	17.35	12.72
	9/16 & 5/8	24.27	18.21	13.35
	3/4	26.31	19.74	14.47
	1	31.87	23.89	17.53
/4-20	5/16 & 3/8	34.25	25.69	18.83
	7/16 & 1/2	36.40	27.31	20.02
	9/16 & 5/8	38.40	28.81	21.12
	3/4	39.78	29.84	21.88
	7/8	44.76	33.56	24.62
	1	48.73	36.55	26.80
	1 1/8 & 1 1/4	53.34	40.00	29.33

PHILLIPS PAN AND PHILLIPS FLAT HEAD

4-40	1/4	$27.78	$20.84	$15.27
	5/16	27.96	20.96	15.38
	3/8	28.24	21.18	15.57
	7/16	28.62	21.46	15.73
	1/2	29.12	21.85	16.02
	9/16 & 5/8	30.35	22.76	16.69
	3/4	31.77	23.83	17.47
	7/8	33.58	25.18	18.48
	1	36.56	27.41	20.10
6-32	1/4	28.59	21.44	15.71
	5/16	28.73	21.55	15.81
	3/8	29.12	21.85	16.01
	7/16	29.64	22.23	16.30
	1/2	30.40	22.80	16.72
	9/16 & 5/8	31.77	23.83	17.47
	3/4	33.58	25.18	18.48
	7/8	35.86	26.90	19.71
	1	37.39	28.03	20.55
8-32	1/4	30.77	23.07	16.92
	5/16	31.06	23.31	17.09
	3/8	31.40	23.56	17.27
	7/16	32.17	24.12	17.69
	1/2	33.07	24.81	18.19
	9/16	33.97	25.49	18.69
	5/8	35.40	26.54	19.46
	3/4	37.83	28.37	20.80
	7/8	40.05	30.04	22.02
	1	42.68	32.00	23.46
10-32 & 10-24	3/8	35.96	26.97	19.78
	7/16	37.17	27.86	20.44
	1/2	38.78	29.08	21.33
	9/16 & 5/8	42.51	31.88	23.38
	3/4	45.86	34.39	25.22
	7/8	50.64	37.97	27.84
	1	54.06	40.55	29.73
1/4-20	3/8	58.87	44.15	32.38
	7/16	60.78	45.59	33.43
	1/2	62.30	46.72	34.26
	9/16 & 5/8	67.69	50.76	37.23
	3/4	71.97	53.99	39.59
	7/8	76.63	57.47	42.14
	1	81.98	61.48	45.09

SILICORINGS™ ELASTOMERIC-RINGS

The part numbering system for SILICORINGS is derived from the actual dimensions of the part. The first group of numbers gives the inside diameter (in thousandths of an inch). The last group of numbers gives the thickness (in thousandths of an inch). The separating letter denotes the material. Example: 056E060 is an O-ring with an I.D. of 0.056", a thickness of 0.060", and the material is neoprene. Max. dimensional tolerances are ±0.005".

APM Number*	Net per 100, Lots of 1-199	200-999	1000-3999	4000-9999
.042S.050	$29.95	$20.96	$14.67	$11.07
.056S.060	26.09	18.27	12.78	9.66
.064S.021	37.67	26.60	18.61	14.04
.064S.021	26.09	18.27	12.78	9.66
.070S.040	21.75	15.22	10.65	8.05
.070S.070	32.92	23.05	16.13	12.18
.073S.026	26.38	18.46	12.93	9.75
.079S.038	26.38	18.46	12.93	9.75
.090S.047	26.38	18.46	12.93	9.75
.094S.034	26.38	18.46	12.93	9.75
.100S.045	23.00	16.10	11.27	8.51
.112S.019	37.67	26.60	18.61	14.04
.130S.075	23.00	16.10	11.27	8.51
.133S.058	23.00	16.10	11.27	8.51
.143S.047	20.47	14.33	10.03	7.57
.145S.026	32.92	23.05	16.13	12.18
.152S.036	23.00	16.10	11.27	8.51
.152S.049	23.00	16.10	11.27	8.51
.154S.058	23.00	16.10	11.27	8.51
.174S.028	56.03	39.22	*	*
.177S.020	74.56	74.56	*	*
.177S.043	74.56	74.56	*	*
.189S.059	56.03	39.22	*	*
.208S.055	20.06	14.04	9.83	7.42
.237S.040	26.38	18.46	12.93	9.94
.240S.025	37.99	26.60	18.61	14.05
.290S.047	27.01	18.91	*	*
.321S.058	31.30	21.90	*	*
.364S.070	22.30	15.61	10.93	8.25
.432S.080	44.25	30.98	*	*

*Prices available on request. *Letter in part number denotes O-ring material; S, silicone; E, Neoprene; V, Viton; H, Hypalon; L, fluorosilicone; F, ethylene propylene; N, Buna N; Y, butyl; prices for alternate materials available on request.

SEELRIVITS™ HIGH-PRESSURE, SELF-SEALING RIVETS

SEELRIVITS are furnished in aluminum alloy for aircraft applications. They have the exact dimensions of AN470 and MS20470 rivets. Other types and materials are available. The rivets are available as Type SRU (universal head) and Type SRC (100° flat head). **Material:** Rivet—aluminum alloy, 2117-T4 with anodized finish, other materials available on special order; O-ring—silicone rubber per ZZ-R-765 Class I & II, Gr 70 Red. **Temperature Range:** −160° F to +500° F. **Pressure Range:** 0 to excess of 6000 psi internal and external, subject to clearance hole dimensions. **Shelf Life:** Excess of 25 years. **Resistant To:** Salt spray, weather, sunlight, ozone, and most acids. **Installation:** Install in same manner as standard rivets. Do not chamfer clearance holes. Standard breakedge practices for deburring (i.e. break sharp edges at 0.005" max.) are permissible.

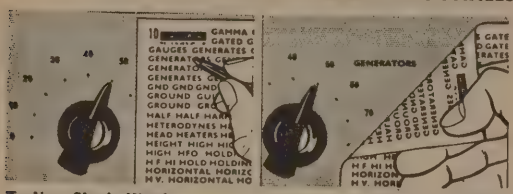
Shank Diam.	Length	Net per 100, Lots of 1-199	200-999	1000-3999	4000-14999
1/8"	3/16" to 1"*	$13.24	$11.91	$10.59	$ 9.27
5/32"	1/4" to 1"†	17.76	15.99	14.20	13.05
3/16"	1/4" to 1"‡	21.68	19.51	17.35	15.18

*In increments of 1/16". †In increments of 1/8". ‡ In increments of 1/4".

DATAK

MARKING AND P. C. ETCHING KITS

DRY TRANSFERS FOR PANELS, METERS AND CIRCUIT BOARDS



To Use: Shade Word **Then: Lift Sheet**

Words, letters, numbers and symbols transfer to all clean surfaces with a rub of a ballpoint pen. No special tools required. Use on metal, paper, plastic, wood or glass. Protect panels with DATAKOAT; makes prototypes look like production equipment.

TITLES FOR ELECTRONIC EQUIPMENT

Set contains 24 sheets (3″ x 5″) with thousands of preset ¼″ high words from "AC" to "ZOOMS". Meets 95% of all electronic needs. Set also includes ⅛″ letters and numbers for special titles.
Datak No. 9581 (Black) or 9591 (White)—Net per Set....**$8.95**
Datak No. 9621 (Black) or 9631 (White) Numbers Set—Contains 12 sheets of numbers only. Net per Set.....**$4.50**
Datak No. 9601 (Black) or 9611 (White) Alphabet Set—Contains 12 sheets of letters only. Net per Set.....**$4.50**

TERMINAL AND CHASSIS MARKING SET

Contains 24 sheets (3″ x 5″) with standard USASI component designation letters (R, L, C, Q, U, etc.) as well as sheets of consecutive numerals from 1 to 227, all in ⅛″ size.
Datak No. 9661 (Black) or 9671 (White)—Net per Set.....**$8.95**
Datak No. JD-244 Consecutive Numbers Set—Contains 24 sheets (2″ x 10″) of black numbers only. Net per Set.....**$9.00**

METER DIAL AND SWITCH MARKING SET

Design special meter dials and switch patterns with lines, arcs, graduations, letters and numbers, in black, white and red. Set contains 12 sheets in large, 5″ x 7″ size.
Datak No. 968 Meter Dial and Switch Marking Set—
Net per Set.....**$8.95**
No. 968 Refills—4 sheets of a number per set (all one color). Specify sheet number. Net per Set.....**$4.80**

DATAMARK SETS

Each set consists of 6 sheets for lettering on electronic equipme

Datak No. Black	Datak No. White	Description
K58B	K58W	Audio, TV, hi-fi
K59B	K59W	Amateur Radio, CB
K60B	K60W	Experimenter, Home, Intercom
K61B	K61W	Test Equipment, Industrial
K62		Marks and switch patterns—black, white as
K63		⅛″ Alphabets and Numerals—blk/wht/gld as
K64		¼″ Alphabets and Numerals—blk/wht/gld as
K65		½″ Alphabets and Numerals—blk/wht/gld as

Any Model Listed—Net Each.....**$2.3**

SPECIALTY SYMBOL SETS

Do camera-ready art for schematics, manuals, slides, propos and block diagrams. Clean, opaque; black only.
Datak No. 970 Electronic Symbol Drafting Set—Contains large sheets (5″ x 7″) of schematic and block diagram symbo Uniform .020″ line width. Conforms to USASI—Y 32.2 or dustry practice. Set includes designation numbers in ⅛″ si Net per Set.....**$30.0**
No. 970 Refills—4 sheets of a number per set. Specify she number. Net per Set.....**$4.8**
Datak No. 971 Logic Diagram Symbol Set—Full-size logic sy bols according to USASI—Y 32.14. Set contains 8 assorted 5″ x sheets. Net per Set.....**$7.5**
No. 971 Refills—4 sheets of a number per set. Specify she number. Net per Set.....**$4.8**
Datak Half-Size Logic Symbols—JotDraft Series. All rub do fast. Can be picked up and repositioned. Line width, .015″. Se contain 24 sheets, size 2″ x 10″.
Datak No. JD-113—"OR, NOR"
Datak No. JD-114—"AND, NAND"
Datak No. JD-115—Flip-flops, function blocks
Datak No. JD-116—Inverters, registers
Datak No. JD-117—Amplifiers
Net Each, any of above.....**$9.0**
Datak No. 972 Chemical Symbol Set—12 sheets (5″ x 7″) inclu benzene rings, indan, napthalene, anthracene, cyclo, bicyc steroid and other structures. Set also contains elements, radica brackets, reaction arrows, etc. Net per Set.....**$8.9**
No. 972 Refills—4 sheets of a number per set. Specify she number. Net per Set.....**$4.8**

DATAKOAT PROTECTIVE COATING



Special plasticized acrylic resin for metal, plastic and painte surfaces. Protects DATAK dry transfers on surfaces subject abrasion. Dried film is tough and perfectly clear. Dry to the tou in 10 minutes. Contains no fluorocarbons.
Datak No. 04176 Liquid Resin—1 oz., brush-in-bottle. Thinn included. Net per Set.....**$2.3**
Datak No. 04177 Gloss Spray—12 oz. aerosol spray can. Net Each.....**$4.2**
Datak No. 04178 Matte Spray—12 oz. aerosol spray can. Net Each.....**$4.2**

DIRECT ETCH AND PHOTO ETCH PRINTED CIRCUIT KITS AND REFILLS

JotDraft extra tough plastic ink is the direct etch resist used in these handy P.C. etch kits and refills.
Datak No. ER-1 Direct Etch Kit—For experimenters or lab technicians. Everything needed for making precision circuit boards: 4 copper-clad boards, 8 sheets assorted direct-etch dry transfer patterns (donuts, lines, nesting circles, jogs, DIPs, flat-packs, TO-5 and most other IC and transistor patterns), 2 rolls resist tape, 1 pint-size ferric chloride etchant, etch tray and complete instructions. Net per Kit.....**$8.95**
Datak No. ER-2 Direct Etch Resist Refill Kit—Includes 8 sheets (3″ x 5″) donuts, lines, nesting circles, jogs, DIPs, flatpacks, TO-5 and most other IC and transistor patterns. Kit also contains 1 roll each of ⅛″ and ½″ etch resist tape. All withstand ferric chloride and most other etch systems. Net per Kit.....**$5.25**
Datak No. ER-13—Same as ER-2, but with 4 sheets assorted d nuts only; ⅛″ through ¼″ diameter. Net per Kit.....**$2.5**
Datak No. ER-14—Same as ER-2, but with 4 sheets DIPs an flatpacks only. Net per Kit.....**$2.5**

ETCH RESIST PEN



Felt tip etch resist pen, fille with ink that is impervious t water-based etch solution Just write on copper-cla board, then etch.
Datak No. ER-15 Etch Resi Pen—Net Each.....**$1.8**

OTHER PRINTED CIRCUIT PRODUCTS

Datak No. ER-3 Dry Concentrated Etchant—Anhydrous ferric chloride in ¼ lb. bag; makes 1 pint of solution. Net Each.....**$2.35**
Datak Photocopy Film for Pos-Neg® System. Polyester base film to make positive or negative from opaque or translucent artwork in one step. Expose with yellow filter to obtain positive image from positive original; expose with yellow filter, then white light to obtain negative. Use photoflood lamp to expose.
Datak No. ER-5—5″ x 6″ film. Net per 6 sheets.....**$5.95**
Datak No. ER-9—8″ x 11″ film. Net per 2 sheets.....**$5.95**
Datak No. ER-6 Film Developer and Fixer—Chemicals needed to make 1 pint lithographic film developer and 1 pint acid fixer. Handles up to 15 sheets 5″ x 6″ photocopy film. Net Ea....**$2.95**
Datak No. ER-71 Photo Resist Liquid—Photopolymer solution with pump spray. Areas exposed through negative are hardened and become etch resistant. Will coat 1700 sq. ins. Use with ER-8 Developer. Net Each.....**$6.95**
Datak No. ER-8 Resist Developer—Solvent to develop resist pattern on board and wash off unexposed resist. Use with ER-71 Spray Resist. 16 fl. oz. Net Each.....**$3.95**
Datak No. ER-10 Contact Exposing Kit—Includes 9″ x 10″ fram for exposing larger sized artwork and circuit boards, yellow filte glass, backboard and illustrations. Net Each.....**$12.95**
Datak No. ER-11 Copper Clad Circuit Boards—Includes 1 eac 5″ x 6″ and 3″ x 4½″, 1 oz. copper-clad phenolic board. Net pe 2 boards.....**$3.50**
Datak No. ER-12 Power Etch Pump—Circulates etch solutio around boards; speeds etch rate and eliminates need for han agitation. Includes air pump, distributor tube and coupling hose Net Each.....**$7.25**
Datak No. ER-4 Photo Etch Kit—For experimenters or lab tech nicians. Kit makes 1X artwork masters, film negatives, film posi tives; sensitizes copper-clad boards; develops and etches resis patterns. Unique, patented Pos-Neg® system copies art from magazine page without destroying original. No darkroom needed work in subdued room light. Kit contains 5″ x 6″ print frame yellow filter, 4 sheets copy film, developer, fixer, spray etch resist 2 copper-clad boards, resist developer, 2 sheets (8½″ x 11″) lay out film, ⅛″ and ½″ P.C. tape, 8 sheets direct etch (dry transfer circuit patterns, 1 pint size ferric chloride etchant and instructio book. Net per Kit.....**$34.95**

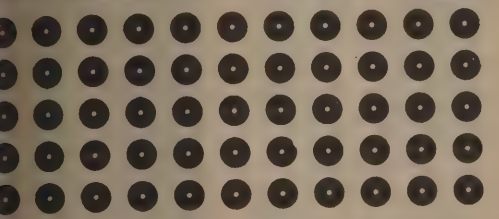
DATAK Drafting Aids & Tapes

JOTDRAFT AND MICROSERIES DRAFTING AIDS AND TAPES

tirely new dry transfer concept. Patterns with plastic over-t transfer as a unit; can be picked up and repositioned like cut stick-ons. Use with ordinary P.C. tapes; see listing. Edge d connector patterns and donuts have no plastic carrier but a rugged plastic ink; are good etch resists.

tak No. JDE-2X—Set of 770 donuts, ICs, transistors and con-tor patterns for 2X art masters. Net per Set..... **$6.75**

tak No. JDE-1X—Same as JDE-2X but contains 1559 1X sized tterns. Net per Set..... **$6.75**



C Donuts On Precision .200" x .300" Centers—Use as 1C patterns rub down singly. For PC art or as direct etch resist.

Datak No.	Qty./ Set	OD x ID (Inches)	Datak No.	Qty./ Set	OD x ID (Inches)
S-1**	800	.080 x .020	JD-136*	4608	.156 x .031
S-2	380	.080 x .031	MS-7*	360	.187 x .031
D-131	4920	.080 x .031	JD-137*	4608	.187 x .031
S-3	380	.093 x .031	MS-8††	240	.218 x .031
D-132	4920	.093 x .031	MS-9†	160	.250 x .031
S-4	380	.100 x .031	JD-144	4920	.100 x .040
D-133	4920	.100 x .031	JD-124R	5760	.125 x .040
S-5	380	.125 x .031	JD-145	4920	.150 x .040
D-134	4920	.125 x .031	JD-146*	4608	.156 x .040
S-6	380	.150 x .031	JD-147*	4608	.187 x .040
D-135	4920	.150 x .031	JD-150†	1920	.250 x .040

*Close space. *Spaced .250" x .250". †Spaced .400" x .400". ††Spaced .312" x .280".

Set per Set, any **MS-#**..... **$1.75**

Set per Set, any **JD-#**..... **$9.00**

PRINTED CIRCUIT TAPES

Precision slit, black crepe tapes for use with JotDraft or standard die-cut drafting aids. Available in a variety of widths.

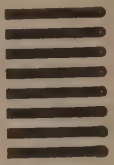
Widths	Net Each
.015", 1/32", .040" and .050".....	$1.60
1/16".....	1.70
.080", 3/32", .100", 1/8", .150", 3/16", .200" and 1/4".....	1.70
.300", 3/8", .400" and 1/2".....	2.20

Drafting Film—Use as a dimensionally stable base for printed circuit master art. Matt polyester accepts pencil, india ink, stick-ons and dry transfers. Includes 2 sheets; 8 1/2" x 11".

Datak No. MS-21—Net Each..... **$1.60**

Edge Card Connector Finger Patterns—Precision spaced. Use as P.C. art or as direct etch resist. Style shown is JD-168.

Datak No.	Scale	Description
JD-121R	2X	.156" spaced, 24 strips
JD-166	2X	.125" spaced, 24 strips
JD-123R	2X	.100" spaced, 24 strips
JD-122R	1X	.156" and .125" spaced, 24 strips, each type
MS-17	1X	.156" spaced, 8 strips
MS-18	1X	.125" spaced, 8 strips
JD-168	1X	.100" spaced, 48 strips
MS-19	1X	.100" spaced, 8 strips



Net Each, any **JD-#**..... **$9.00**

Net Each, any **MS-#**..... **$1.75**



Fig. A Fig. B Fig. C

Datak No.	Fig.	Scale	No. Pins	Datak No.	Fig.	Scale	No. Pins
JD-67	A	2X	14	JD-68	A	1X	14
JD-64	A	2X	16	JD-65	A	1X	16
JD-188	B	2X	14	JD-189	B	1X	14
JD-185	B	2X	16	JD-186	B	1X	16
JD-182	C	2X	14	JD-183	C	1X	14
JD-179	C	2X	16	JD-180	C	1X	16

Net Each, any of above..... **$9.00**

Other TO, DIP and Target Patterns—Not for direct etch use. All are 1X scale; have clear carrier. DIP patterns are 16 pin only.



Fig. D Fig. E Fig. F Fig. G Fig. H

Datak No.	Fig.	Quantity/ Set	Datak No.	Fig.	Quantity/ Set
MS-10	D	96	MS-14	A	32
MS-11	E	96	MS-15	B	32
MS-12	F	144	MS-16	C	32
MS-13	G	84	MS-20	H	40

Net Each, any of above..... **$1.75**

SCOTCH® BRAND ELECTRICAL TAPE, SPRAY

NO. 33 VINYL PLASTIC ELECTRICAL TAPE

Proved and accepted for general purpose insulation. Excellent resistance to flame, abrasion, sunlight, moisture, alkalies, solvents, oil and many acids. Quick sticking; strong holding pressure-sensitive adhesive. Excellent stretch and conformability. Full electrical and mechanical protection with minimum bulk. Good "feel" for tight wrapping. Only .007" thick.



Size, W. x L.	Net Each Roll, Pkg of 1 Roll	10 Rolls
3/4" x 66'*	$1.99	$1.64
1 1/2" x 44'	2.68	2.21

*Available with plastic dispenser; order No. 33D; same prices.

IVI-SPRAY® INSULATING ENAMEL

Electrical insulating enamel in 11-oz. pressurized spray can. Finds many applications in electronics and electrical insulation needs.

3M No. 1602 (Red), **1603** (Black)—Net Each..... **$7.19**

In 10-can cartons, Net Each..... **5.48**

NO. 88 "ALL-WEATHER" VINYL PLASTIC TAPE

Thin (.0085"), tough electrical tape for general purpose "all-weather" insulation. Extra pliability and conformability at winter temperatures. Flame-retardant and resistant to abrasion, puncture, acids, alkalies, oil and weathering.

Size, W. x L.	No. Rolls per Ctn.	Net Each Roll, Pkg. of 1 Roll	10-Roll Ctn.
3/4" x 66 ft.	10	$2.15	$1.78
3/4" x 44 ft.	10	1.50	1.24
1 1/2" x 44 ft.	10	2.82	2.33

NO. 27 GLASS CLOTH BACKED TAPE

Glass cloth backing and thermosetting adhesive for high heat area applications. Only .007" thick.

Size, W. x L.	No. Rolls per Ctn.	Net Each Roll, Pkg. of 1 Roll	10-Roll Ctn.
1/2" x 66 ft.	10	$3.55	$2.71
3/4" x 66 ft.	10	5.26	4.01

®Registered trademark of 3M Co.

BRASS SPACERS



3/16" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #2 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1313-004	.125	$5.70
312-1313-006	.187	6.20
312-1313-008	.250	7.00
312-1313-010	.312	7.90
312-1313-012	.375	8.40
312-1313-014	.437	9.10
312-1313-016	.500	9.40
312-1313-018	.562	10.70
312-1313-020	.625	11.20
213-1313-022	.687	14.00
312-1313-024	.750	14.50
312-1313-026	.812	15.00
312-1313-028	.875	16.40
312-1313-030	.937	16.70
312-1313-032	1.00	18.40

FOR #4 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1323-004	.125	$5.70
312-1323-006	.187	6.20
312-1323-008	.250	7.00
312-1323-010	.312	7.90
312-1323-012	.375	8.40
312-1323-014	.437	9.10
312-1323-016	.500	9.40
312-1323-018	.562	10.70
312-1323-020	.625	11.20
312-1323-022	.687	14.00
312-1323-024	.750	14.50
312-1323-026	.812	15.00
312-1323-028	.875	16.40
312-1323-030	.937	16.70
312-1323-032	1.00	18.40

1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #4 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1423-004	.125	$5.70
312-1423-006	.187	6.20
312-1423-008	.250	7.00
312-1423-010	.312	7.90
312-1423-012	.375	8.40
312-1423-014	.437	9.10
312-1423-016	.500	9.40
312-1423-018	.562	10.70
312-1423-020	.625	11.20
312-1423-022	.687	14.00
312-1423-024	.750	14.50
312-1423-026	.812	15.00
312-1423-028	.875	16.40
312-1423-030	.937	16.70
312-1423-032	1.00	18.00

FOR #6 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1433-004	.125	$5.70
312-1433-006	.187	6.20
312-1433-008	.250	7.00
312-1433-010	.312	7.90
312-1433-012	.375	8.40
312-1433-014	.437	9.10
312-1433-016	.500	9.40
312-1433-018	.562	10.70
312-1433-020	.625	11.20
312-1433-022	.687	14.00
312-1433-024	.750	14.50
312-1433-026	.812	15.00
312-1433-028	.875	16.40
312-1433-030	.937	16.70
312-1433-032	1.00	18.00

FOR #8 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1443-004	.125	$5.70
312-1443-006	.187	6.20
312-1443-008	.250	7.00
312-1443-010	.312	7.90
312-1443-012	.375	8.40
312-1443-014	.437	9.10
312-1443-016	.500	9.40
312-1443-018	.562	10.70
312-1443-020	.625	11.20

1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #8 SCREW (CONT'D)

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1443-022	.687	$14.00
312-1443-024	.750	14.50
312-1443-026	.812	15.00
312-1443-028	.875	16.40
312-1443-030	.937	16.70
312-1443-032	1.00	18.00

3/8" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #4 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1623-004	.125	$10.00
312-1623-006	.187	11.70
312-1623-008	.250	12.50
312-1623-010	.312	13.40
312-1623-012	.375	15.50
312-1623-014	.437	16.70
312-1623-016	.500	17.40
312-1623-018	.562	18.40
312-1623-020	.625	20.00
312-1623-022	.687	21.70
312-1623-024	.750	22.50
312-1623-026	.812	23.40
312-1623-028	.875	24.20
312-1623-030	.937	25.10
312-1633-032	1.00	25.90

FOR #6 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1633-004	.125	$10.00
312-1633-006	.187	11.70
312-1633-008	.250	12.50
312-1633-010	.312	13.40
312-1633-012	.375	15.50
312-1633-014	.437	16.70
312-1633-016	.500	17.40
312-1633-018	.562	18.40
312-1633-020	.625	20.00
312-1633-022	.687	21.70
312-1633-024	.750	22.50
312-1633-026	.812	23.40
312-1633-028	.875	24.20
312-1633-030	.937	25.10
312-1633-032	1.00	25.90

FOR #8 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-1643-004	.125	$10.00
312-1643-006	.187	11.70
312-1643-008	.250	12.50
312-1643-010	.312	13.40
312-1643-012	.375	15.50
312-1643-014	.437	16.70
312-1643-016	.500	17.40
312-1643-018	.562	18.40
312-1643-020	.625	20.00
312-1643-022	.687	21.70
312-1643-024	.750	22.50
312-1643-026	.812	23.40
312-1643-028	.875	24.20
312-1643-030	.937	25.10
312-1643-032	1.00	25.90



3/16" O.D. ROUND THREADED FOR #2-56 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-2363-004	.125	$7.40
312-2363-006	.187	7.70
312-2363-008	.250	8.00
312-2363-010	.312	8.40
312-2363-012	.375	9.40
312-2363-014	.437	10.00
312-2363-016	.500	11.00
312-2363-018	.562	12.20
312-2363-020	.625	13.40
312-2363-022	.687	14.70
312-2363-024	.750	16.20
312-2363-026	.812	17.70
312-2363-028	.875	18.70
312-2363-030	.937	19.70
312-2363-032	1.00	21.00

FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-2373-004	.125	$7.40
312-2373-006	.187	7.70
312-2373-008	.250	8.00
312-2373-010	.312	8.40
312-2373-012	.375	9.40
312-2373-014	.437	10.00
312-2373-016	.500	11.00
312-2373-018	.562	12.20
312-2373-020	.625	13.40
312-2373-022	.687	14.70
312-2373-024	.750	16.20
312-2373-026	.812	17.70
312-2373-028	.875	18.70
312-2373-030	.937	19.70
312-2373-032	1.00	21.00

1/4" O.D. ROUND THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-2473-004	.125	$7.30
312-2473-006	.187	7.70
312-2473-008	.250	8.00
312-2473-010	.312	8.40
312-2473-012	.375	9.40
312-2473-014	.437	10.00
312-2473-016	.500	12.40
312-2473-018	.562	13.20
312-2473-020	.625	14.00
312-2473-022	.687	17.00
312-2473-024	.750	17.00
312-2473-026	.812	18.00
312-2473-028	.875	19.00
312-2473-030	.937	20.00
312-2473-032	1.00	20.00

FOR #6-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-2483-004	.125	$7.30
312-2483-006	.187	7.70
312-2483-008	.250	8.00
312-2483-010	.312	8.40
312-2483-012	.375	9.40
312-2483-014	.437	10.00
312-2483-016	.500	12.40
312-2483-018	.562	13.20
312-2483-020	.625	14.00
312-2483-022	.687	17.00
312-2483-024	.750	17.00
312-2483-026	.812	18.00
312-2483-028	.875	19.00
312-2483-030	.937	20.00
312-2483-032	1.00	20.00

FOR #8 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-2493-004	.125	$7.30
312-2493-006	.187	7.70
312-2493-008	.250	8.00
312-2493-010	.312	8.40
312-2493-012	.375	9.40
312-2493-014	.437	10.00
312-2493-016	.500	12.40
312-2493-018	.562	13.20
312-2493-020	.625	14.00
312-2493-022	.687	17.00
312-2493-024	.750	17.00
312-2493-026	.812	18.00
312-2493-028	.875	19.00
312-2493-030	.937	20.00
312-2493-032	1.00	20.00



3/16" O.D. HEX THREADED FOR #2-56 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6363-004	.125	$7.30
312-6363-006	.187	7.70
312-6363-008	.250	8.00
312-6363-010	.312	8.40
312-6363-012	.375	9.40
312-6363-014	.437	10.00
312-6363-016	.500	12.40
312-6363-018	.562	13.20
312-6363-020	.625	14.00
312-6363-022	.687	17.00

3/16" O.D. HEX THREADED FOR #2-5[illegible] SCREW (CONT'D)

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6363-024	.750	$17
312-6363-026	.812	18
312-6363-028	.875	19
312-6363-030	.937	20
312-6363-032	1.00	20

FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6373-004	.125	$7
312-6373-006	.187	7
312-6373-008	.250	8
312-6373-010	.312	8
312-6373-012	.375	9
312-6373-014	.437	10
312-6373-016	.500	12
312-6373-018	.562	13
312-6373-020	.625	14
312-6373-022	.687	17
312-6373-024	.750	17
312-6373-026	.812	18
312-6373-028	.875	19
213-6373-030	.937	20
312-6373-032	1.00	20

1/4" O.D. HEX THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6473-004	.125	$7
312-6473-006	.187	8
312-6473-008	.250	8
312-6473-010	.312	9
312-6473-012	.375	11
312-6473-014	.437	11
312-6473-016	.500	12
312-6473-018	.562	14
312-6473-020	.625	16
312-6473-022	.687	18
312-6473-024	.750	19
312-6473-026	.812	20
312-6473-028	.875	21
312-6473-030	.937	22
312-6473-032	1.00	23

FOR #6-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6483-004	.125	$7.5
312-6483-006	.187	8.0
312-6483-008	.250	8.7
312-6483-010	.312	9.4
312-6483-012	.375	11.0
312-6483-014	.437	11.4
312-6483-016	.500	12.4
312-6483-018	.562	14.5
312-6483-020	.625	16.7
312-6483-022	.687	18.4
312-6483-024	.750	19.0
312-6483-026	.812	20.0
312-6483-028	.875	21.0
312-6483-030	.937	22.0
312-6483-032	1.00	23.0

FOR #8-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6493-004	.125	$7.50
312-6493-006	.187	8.00
312-6493-008	.250	8.70
312-6493-010	.312	9.40
312-6493-012	.375	11.00
312-6493-014	.473	11.40
312-6493-016	.500	12.40
312-6493-018	.562	14.50
312-6493-020	.625	16.70
312-6493-022	.687	18.40
312-6493-024	.750	19.00
312-6493-026	.812	20.00
312-6493-028	.875	21.00
312-6493-030	.937	22.00
312-6493-032	1.00	23.00

5/16" O.D. HEX THREADED FOR #10-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-6503-004	.125	$8.40
312-6503-008	.250	9.50
312-6503-012	.375	11.70
312-6503-016	.500	13.50
312-6503-020	.625	18.40
312-6503-024	.750	21.00
312-6503-028	.875	22.40
312-6503-032	1.00	24.90

JOHNSON Spacers

STAINLESS STEEL SPACERS



3/16" O.D ROUND TUBULAR WITH CLEAR HOLE FOR #2 SCREW

F. Johnson Number	Lgth. Ins.	Net/ 100
7-1318-004	.125	$13.90
7-1318-006	.187	14.00
7-1318-008	.250	15.00
7-1318-010	.312	16.40
7-1318-012	.375	17.50
7-1318-014	.437	18.90
7-1318-016	.500	20.00
7-1318-018	.562	21.40
7-1318-020	.625	22.50
7-1318-022	.687	23.90
7-1318-024	.750	25.10
7-1318-026	.812	26.40
7-1318-028	.875	27.60
7-1318-030	.937	28.90
7-1318-032	1.00	31.40

FOR #4 SCREW

F. Johnson Number	Lgth. Ins.	Net/ 100
7-1328-004	.125	$13.90
7-1328-006	.187	14.00
7-1328-008	.250	15.00
7-1328-010	.312	16.40
7-1328-012	.375	17.50
7-1328-014	.437	18.90
7-1328-016	.500	20.00
7-1328-018	.562	21.40
7-1328-020	.625	22.50
7-1328-022	.687	23.90
7-1328-024	.750	25.10
7-1328-026	.812	26.40
7-1328-028	.875	27.60
7-1328-030	.937	28.90
7-1328-032	1.00	31.40

1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #4 SCREW

7-1428-004	.125	$13.90
7-1428-006	.187	15.00
7-1428-008	.250	16.40
7-1428-010	.312	17.50
7-1428-012	.375	18.40
7-1428-014	.437	20.00
7-1428-016	.500	21.40
7-1428-018	.562	22.50
7-1428-020	.625	23.90
7-1428-022	.687	25.10
7-1428-024	.750	26.40
7-1428-026	.812	27.60
7-1428-028	.875	30.00
7-1428-030	.937	32.60
7-1428-032	1.00	35.10

FOR #6 SCREW

317-1438-004	.125	$13.90
317-1438-006	.187	15.00
317-1438-008	.250	16.40
317-1438-010	.312	17.50
317-1438-012	.375	18.40
317-1438-014	.437	20.00
317-1438-016	.500	21.40
317-1438-018	.562	22.50
317-1438-020	.625	23.90
317-1438-022	.687	25.10
317-1438-024	.750	26.40
317-1438-026	.812	27.60
317-1438-028	.875	30.00
317-1438-030	.937	32.60
317-1438-032	1.00	35.10

FOR #8 SCREW

317-1448-004	.125	$13.90
317-1448-006	.187	15.00
317-1448-008	.250	16.40
317-1448-010	.312	17.50
317-1448-012	.375	18.40
317-1448-014	.437	20.00
317-1448-016	.500	21.40
317-1448-018	.562	22.50
317-1448-020	.625	23.90
317-1448-022	.687	25.10
317-1448-024	.750	26.40
317-1448-026	.812	27.60
317-1448-028	.875	30.00
317-1448-030	.937	32.60
317-1448-032	1.00	35.10

5/16" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #10 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-1558-004	.125	$16.40
317-1558-008	.250	17.50
317-1558-012	.375	18.90
317-1558-016	.500	20.00
317-1558-020	.625	21.40
317-1558-024	.750	22.50
317-1558-028	.875	23.90
317-1558-032	1.00	25.10



3/16" O.D. ROUND THREADED FOR #2-56 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-2368-004	.125	$17.50
317-2368-008	.250	18.90
317-2368-012	.375	21.40
317-2368-016	.500	23.40
317-2368-020	.625	28.90
317-2368-024	.750	31.40
317-2368-028	.875	33.70
317-2368-032	1.00	36.40

FOR #4-40 SCREW

317-2378-004	.125	$17.50
317-2378-008	.250	18.90
317-2378-012	.375	21.40
317-2378-016	.500	23.40
317-2378-020	.625	28.90
317-2378-024	.750	31.40
317-2378-028	.875	33.70
317-2378-032	1.00	36.40

1/4" O.D. ROUND THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-2478-004	.125	$27.60
317-2478-008	.250	25.10
317-2478-012	.375	23.90
317-2478-016	.500	28.90
317-2478-020	.625	31.40
317-2478-024	.750	33.90
317-2478-028	.875	40.00
317-2478-032	1.00	42.60

FOR #6-32 SCREW

317-2488-004	.125	$27.60
317-2488-008	.250	25.10
317-2488-012	.375	23.90
317-2488-016	.500	28.90
317-2488-020	.625	31.40
317-2488-024	.750	33.90
317-2488-028	.875	40.00
317-2488-032	1.00	42.60

FOR #8 SCREW

317-2498-004	.125	$27.60
317-2498-008	.250	25.10
317-2498-012	.375	23.90
317-2498-016	.500	28.90
317-2498-020	.625	31.40
317-2498-025	.750	33.90
317-2498-028	.875	40.00
317-2498-032	1.00	42.60

5/16" O.D. ROUND THREADED FOR #10-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-2508-004	.125	$20.07
317-2508-008	.250	24.40
317-2508-012	.375	28.20
317-2508-016	.500	31.90
317-2508-020	.625	35.70
317-2508-024	.750	39.40
317-2508-028	.875	45.10
317-2508-032	1.00	52.60



3/16" O.D. HEX THREADED FOR #2-56 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-6368-004	.125	$16.40
317-6368-006	.187	17.50
317-6368-008	.250	18.90
317-6368-010	.312	17.30
317-6368-012	.375	21.40
317-6368-014	.437	22.50
317-6368-016	.500	23.90
317-6368-018	.562	27.60
317-6368-020	.625	28.90
317-6368-022	.687	30.00
317-6368-024	.750	31.40
317-6368-026	.812	32.60
317-6368-028	.875	33.90
317-6368-030	.937	35.10
317-6368-032	1.00	36.40

FOR #4-40 SCREW

317-6378-004	.125	$16.40
317-6378-006	.187	17.50
317-6378-008	.250	18.90
317-6378-010	.312	20.00
317-6378-012	.375	21.40
317-6378-014	.437	22.50
317-6378-016	.500	23.90
317-6378-018	.562	27.60
317-6378-020	.625	28.90
317-6378-022	.687	30.00
317-6378-024	.750	31.40
317-6378-026	.812	32.60
317-6378-028	.875	33.90
317-6378-030	.937	35.10
317-6378-032	1.00	36.40

1/4" O.D. HEX THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-6478-004	.125	$21.14
317-6478-006	.187	22.50
317-6478-008	.250	33.40
317-6478-010	.312	23.90
317-6478-012	.375	24.90
317-6478-014	.437	27.60
317-6478-016	.500	31.40
317-6478-018	.562	33.90
317-6478-020	.625	36.40
317-6478-024	.750	40.00
317-6478-028	.875	42.60
317-6478-032	1.00	43.90
317-6478-040	1.25	47.60
317-6478-048	1.50	52.60
317-6478-056	1.75	56.40
317-6478-064	2.00	61.50

FOR #6-32 SCREW

317-6488-004	.125	$21.40
317-6488-006	.187	22.50
317-6488-008	.250	23.40
317-6488-010	.312	23.90
317-6488-012	.375	24.90
317-6488-014	.437	27.60
317-6488-016	.500	31.40
317-6488-018	.562	33.90
317-6488-020	.625	36.40
317-6488-024	.750	40.00
317-6488-028	.875	42.60
317-6488-032	1.00	43.90
317-6488-040	1.25	47.60
317-6488-048	1.50	52.60
317-6488-056	1.75	56.40
317-6488-064	2.00	61.50

FOR #8-32 SCREW

317-6498-004	.125	$21.40
317-6498-006	.187	22.50
317-6498-008	.250	23.40
317-6498-010	.312	23.90
317-6498-012	.375	24.90
317-6498-014	.437	27.60
317-6498-016	.500	31.40
317-6498-018	.562	33.90
317-6498-020	.625	36.40
317-6498-024	.750	40.00

1/4" O.D. HEX THREADED FOR #4-40 SCREW (CONT'D)

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-6498-028	.875	$42.60
317-6498-032	1.00	43.90
317-6498-040	1.25	47.60
317-6498-048	1.50	52.60
317-6498-056	1.75	56.40
317-6498-064	2.00	61.50

5/16" O.D. HEX THREADED FOR #10-32 SCREW

317-6508-004	.125	$28.40
317-6508-008	.250	31.40
317-6508-012	.375	32.90
317-6508-016	.500	41.40
317-6508-020	.625	48.90
317-6508-024	.750	52.60
317-6508-028	.875	56.40
317-6508-032	1.00	59.00
317-6508-040	1.25	62.60
317-6508-048	1.50	70.00
317-6508-056	1.75	75.20
317-6508-064	2.00	81.50

ALUMINUM SPACERS



3/16" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #2 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-1317-004	.125	$5.00
313-1317-006	.187	5.50
313-1317-008	.250	6.00
313-1317-010	.312	6.50
313-1317-012	.375	7.00
313-1317-014	.437	7.50
313-1317-016	.500	8.00
313-1317-018	.562	8.80
313-1317-020	.625	9.00
313-1317-022	.687	9.20
313-1317-024	.750	10.00
313-1317-026	.812	10.50
313-1317-028	.875	11.00
313-1317-030	.937	11.50
313-1317-032	1.00	12.00

FOR #4 SCREW

313-1327-004	.125	$5.00
313-1327-006	.187	5.50
313-1327-008	.250	6.00
313-1327-010	.312	6.50
313-1327-012	.375	7.00
313-1327-014	.437	7.50
313-1327-016	.500	8.00
313-1327-018	.562	8.80
313-1327-020	.625	9.00
313-1327-022	.687	9.20
313-1327-024	.750	10.00
313-1327-026	.812	10.50
313-1327-028	.875	11.00
313-1327-030	.937	11.50
313-1327-032	1.00	12.00

1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #4 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-1427-004	.125	$5.00
313-1427-006	.187	5.50
313-1427-008	.250	6.00
313-1427-010	.312	6.50
313-1427-012	.375	7.00
313-1427-014	.437	7.50
313-1427-016	.500	8.00
313-1427-018	.562	8.80
313-1427-020	.625	9.00
313-1427-022	.687	9.20
313-1427-024	.750	10.00
313-1427-026	.812	10.50
313-1427-028	.875	11.00
313-1427-030	.937	11.50
313-1427-032	1.00	12.00

LISTING CONTINUED ON FOLLOWING PAGE

ALUMINUM SPACERS (CONT'D)



1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #6 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-1437-004	.125	$5.00
313-1437-006	.187	5.50
313-1437-008	.250	6.00
313-1437-010	.312	6.50
313-1437-012	.375	7.00
313-1437-014	.437	7.50
313-1437-016	.500	8.00
313-1437-018	.562	8.80
313-1437-020	.625	9.00
313-1437-022	.687	9.20
313-1437-024	.750	10.00
313-1437-026	.812	10.50
313-1437-028	.875	11.00
313-1437-030	.937	11.50
313-1437-032	1.00	12.00

FOR #8 SCREW

313-1447-004	.125	$5.00
313-1447-006	.187	5.50
313-1447-008	.250	6.00
313-1447-010	.312	6.50
313-1447-012	.375	7.00
313-1447-014	.437	7.50
313-1447-016	.500	8.00
313-1447-018	.562	8.80
313-1447-020	.625	9.00
313-1447-022	.687	9.20
313-1447-024	.750	10.00
313-1447-026	.812	10.50
313-1447-028	.875	11.00
313-1447-030	.937	11.50
313-1447-032	1.00	12.00

5 /16" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #10 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-1557-004	.125	$7.00
313-1557-006	.187	7.50
313-1557-008	.250	8.00
313-1557-010	.312	8.50
313-1557-012	.375	9.00
313-1557-014	.437	9.50
313-1557-016	.500	10.00
313-1557-018	.562	10.50
313-1557-020	.625	11.00
313-1557-022	.687	11.50
313-1557-024	.750	12.00
313-1557-026	.812	12.50
313-1557-028	.875	13.00
313-1557-030	.937	14.00
313-1557-032	1.00	15.00



1/4" O.D. ROUND THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-2477-004	.125	$6.00
313-2477-008	.250	7.00
313-2477-012	.375	8.00
313-2477-016	.500	9.00
313-2477-020	.625	10.00
313-2477-024	.750	11.00
313-2477-028	.875	12.00
313-2477-032	1.00	14.00
313-2477-040	1.25	16.00
313-2477-048	1.50	17.00

FOR #6-32 SCREW

313-2487-004	.125	$6.00
313-2487-008	.250	7.00
313-2487-012	.375	8.00
313-2487-016	.500	9.00
313-2487-020	.625	10.00
313-2487-024	.750	11.00
313-2487-028	.875	12.00
313-2487-032	1.00	14.00
313-2487-040	1.25	16.00
313-2487-048	1.50	17.00

FOR #8-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-2497-004	.125	$6.00
313-2497-008	.250	7.00
313-2497-012	.375	8.00
313-2497-016	.500	9.00
313-2497-020	.625	10.00
313-2497-024	.750	11.00
313-2497-028	.875	12.00
313-2497-032	1.00	14.00
313-2497-040	1.25	16.00
313-2497-048	1.50	17.00

5/16" O.D. ROUND THREADED FOR #10-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-2507-004	.125	$8.00
313-2507-006	.187	9.00
313-2507-008	.250	10.00
313-2507-010	.312	11.00
313-2507-012	.375	12.00
313-2507-014	.437	13.00
313-2507-016	.500	14.00
313-2507-018	.562	15.00
313-2507-020	.625	16.00
313-2507-022	.687	17.00
313-2507-024	.750	18.00



1/4" O.D. HEX THREADED FOR #4-40 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-6477-004	.125	$7.00
313-6477-008	.250	8.00
313-6477-012	.375	9.00
313-6477-016	.500	10.00
313-6477-020	.625	11.00
313-6477-024	.750	12.00
313-6477-028	.875	13.00
313-6477-032	1.00	14.00
313-6477-036	1.125	15.00
313-6477-040	1.250	16.00
313-6477-044	1.375	17.00
313-6477-048	1.500	18.00

FOR #6-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-6487-004	.125	$7.00
313-6487-008	.250	8.00
313-6487-012	.375	9.00
313-6487-016	.500	10.00
313-6487-020	.625	11.00
313-6487-024	.750	12.00
313-6487-028	.875	13.00
313-6487-032	1.00	14.00
313-6487-036	1.125	15.00
313-6487-040	1.250	16.00
313-6487-044	1.375	17.00
313-6487-048	1.500	18.00

FOR #8-32 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
313-6497-004	.125	$7.00
313-6497-008	.250	8.00
313-6497-012	.375	9.00
313-6497-016	.500	10.00
313-6497-020	.625	11.00
313-6497-024	.750	12.00
313-6497-028	.875	13.00
313-6497-032	1.00	14.00
313-6497-036	1.125	15.00
313-6497-040	1.250	16.00
313-6497-044	1.375	17.00
313-6497-048	1.500	18.00

NYLON SPACERS



3/16" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #2 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
314-1311-004	.125	$2.80
314-1311-006	.187	3.00
314-1311-008	.250	3.70
314-1311-010	.312	4.30
314-1311-012	.375	5.00
314-1311-014	.437	5.30
314-1311-016	.500	5.80
314-1311-018	.562	6.30
314-1311-020	.625	6.80
314-1311-022	.687	7.20
314-1311-024	.750	7.70
314-1311-026	.812	7.80
314-1311-028	.875	8.20
314-1311-030	.937	8.70
314-1311-032	1.00	9.00

FOR #4 SCREW

314-1321-004	.125	$2.80
314-1321-006	.187	3.00
314-1321-008	.250	3.70
314-1321-010	.250	4.30
314-1321-012	.375	5.00
314-1321-014	.437	5.30
314-1321-016	.500	5.80
314-1321-018	.562	6.30
314-1321-020	.625	6.80
314-1321-022	.687	7.20
314-1321-024	.750	7.70
314-1321-026	.812	7.80
314-1321-028	.875	8.20
314-1321-030	.937	8.70
314-1321-032	1.00	9.00

1/4" O.D. ROUND TUBULAR WITH CLEAR HOLE FOR #4 SCREW

E. F. Johnson Number	Lgth. Ins.	Net/ 100
314-1421-004	.125	$2.80
314-1421-006	.187	3.00
314-1421-008	.250	3.70
314-1421-010	.312	4.30
314-1421-012	.375	5.00
314-1421-014	.437	5.30
314-1421-016	.500	5.80
314-1421-018	.562	6.30
314-1421-020	.625	6.80
314-1421-022	.687	7.20
314-1421-024	.750	7.70
314-1421-026	.812	7.80
314-1421-028	.875	8.20
314-1421-030	.937	8.70
314-1421-032	1.00	9.00

FOR #6 SCREW

314-1431-004	.125	$3.20
314-1431-006	.187	3.30
314-1431-008	.250	4.20
314-1431-010	.312	4.80
314-1431-012	.375	5.50
314-1431-014	.437	6.00
314-1431-016	.500	6.50
314-1431-018	.562	7.00
314-1431-020	.625	7.50
314-1431-022	.687	8.00
314-1431-024	.750	8.50
314-1431-026	.812	8.70
314-1431-028	.875	9.20
314-1431-030	.937	9.70
314-1431-032	1.00	10.00

FOR #8 SCREW

314-1441-004	.125	$3.20
314-1441-006	.187	3.30
314-1441-008	.250	4.20
314-1441-010	.312	4.80
314-1441-012	.375	5.50
314-1441-014	.437	6.00
314-1441-016	.500	6.50
314-1441-018	.562	7.00
314-1441-020	.625	7.50
314-1441-022	.687	8.00
314-1441-024	.750	8.50
314-1441-026	.812	8.70
314-1441-028	.875	9.20
314-1441-030	.937	9.70
314-1441-032	1.00	10.00

STAINLESS STEEL MALE/FEMALE SPACERS



3/16" O.D. H
STUD—
2-56 × 1/8
HOLE—
2-56 × 3/16

E. F. Johnson Number	Lgth. Ins.	Ne 10
317-7368-008	.250	$30.
317-7368-012	.375	31.
317-7368-016	.500	33.
317-7368-020	.625	35.
317-7368-024	.750	36.
317-7368-028	.875	37.
317-7368-032	1.00	39.

STUD—4-40 × 3/16" HOLE—4-40 × 1/4"

E. F. Johnson Number	Lgth. Ins.	Net 100
317-7378-008	.250	$30.6
317-7378-012	.375	31.7
317-7378-016	.500	33.1
317-7378-020	.625	35.7
317-7378-024	.750	36.6
317-7378-028	.875	37.6
317-7378-032	1.00	39.6

1/4" O.D. HEX STUD—4-40 × 3/16" HOLE—4-40 × 1/4"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
317-7478-008	.250	$37.6
317-7478-012	.375	40.0
317-7478-016	.500	50.1
317-7478-020	.625	57.6
317-7478-024	.750	64.0
317-7478-028	.875	67.6
317-7478-032	1.000	69.0
317-7478-036	1.125	71.5
317-7478-040	1.250	76.5
317-7478-044	1.375	78.5
317-7478-048	1.500	80.5
317-7478-052	1.625	82.2
317-7478-056	1.750	83.8
317-7478-060	1.875	85.5
317-7478-064	2.000	87.2

STUD—8-32 × 3/8" HOLE—8-32 × 7/16"

317-7498-008	.250	$37.6
317-7498-012	.375	40.0
317-7498-016	.500	50.1
317-7498-020	.625	57.6
317-7498-024	.750	64.0
317-7498-028	.875	67.6
317-7498-032	1.000	69.0
317-7498-036	1.125	71.5
317-7498-040	1.250	76.5
317-7498-044	1.375	78.5
317-7498-048	1.500	80.5
317-7498-052	1.625	82.2
317-7498-056	1.750	83.8
317-7498-060	1.875	85.5
317-7498-064	2.000	87.2

STUD—6-32 × 1/4" HOLE—6-32 × 3/8"

317-7488-008	.250	$37.6
317-7488-012	.375	40.0
317-7488-016	.500	50.1
317-7488-020	.625	57.6
317-7488-024	.750	64.0
317-7488-028	.875	67.6
317-7488-032	1.000	69.0
317-7488-036	1.125	71.5
317-7488-040	1.250	76.5
317-7488-044	1.375	78.5
317-7488-048	1.500	80.5
317-7488-052	1.625	82.2
317-7488-056	1.750	83.8
317-7488-060	1.875	85.5
317-7488-064	2.000	87.2

LISTING CONTINUED ON FOLLOWING PAGE

1/4" O.D. HEX BRASS MALE/FEMALE SPACERS (CONT'D)



STUD—4-40 × 3/16"
HOLE—4-40 × 1/4"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
12-7473-008	.250	$21.70
12-7473-012	.375	23.40
12-7473-016	.500	23.70
12-7473-020	.625	24.20
12-7473-024	.750	24.70
12-7473-028	.875	25.00
12-7473-032	1.00	25.90
12-7473-036	1.125	26.40
12-7473-040	1.250	27.60
12-7473-044	1.375	29.20
12-7473-048	1.500	30.00
12-7473-052	1.625	31.10
12-7473-056	1.750	31.60
12-7473-064	2.000	32.40

STUD—6-32 × 1/4"
HOLE—6-32 × 3/8"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-7483-008	.250	$21.70
312-7483-012	.375	23.40
312-7483-016	.500	23.70
312-7483-020	.625	24.20
312-7483-024	.750	24.70
312-7483-028	.875	25.00
312-7483-032	1.000	25.90
312-7483-036	1.125	26.40
312-7483-040	1.250	27.60
312-7483-044	1.375	29.20
312-7483-048	1.500	30.00
312-7483-052	1.625	31.10
312-7483-056	1.750	31.60
312-7483-064	2.000	32.40

STUD—8-32 × 3/8"
HOLE—8-32 × 7/16"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
312-7493-008	.250	$21.70
312-7493-012	.375	23.40
312-7493-016	.500	23.70
312-7493-020	.625	24.20
312-7493-024	.750	24.70
312-7493-028	.875	25.00
312-7493-032	1.000	25.90
312-7493-036	1.125	26.40
312-7493-040	1.250	27.60
312-7493-044	1.375	29.20
312-7493-048	1.500	30.00
312-7493-052	1.625	31.10
312-7493-056	1.750	31.60
312-7493-064	2.000	32.40

1/4" O.D. BRASS HEX SWAGE MOUNT SPACERS



HOLE—Tapped 2-56 × .188"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
BOARD 1/16" THICK		
312-9463-204	.125	$10.40
312-9463-206	.187	12.00
312-9463-208	.250	14.70
312-9463-212	.375	15.40
312-9463-216	.500	16.70
BOARD 3/32" THICK		
312-9463-304	.125	$10.40
312-9463-306	.187	12.00
312-9463-308	.250	14.70
312-9463-312	.375	15.40
312-9463-316	.500	16.70
BOARD 1/8" THICK		
312-9463-404	.125	$10.40
312-9463-406	.187	12.00
312-9463-408	.250	14.70
312-9463-412	.375	15.40
312-9463-416	.500	16.70

HOLE—Tapped 4-40 × .250"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
BOARD 1/16" THICK		
312-9473-208	.250	$10.40
312-9473-212	.375	12.00
312-9473-216	.500	14.70
312-9473-220	.625	15.40
312-9473-224	.750	16.70
312-9473-232	1.00	21.70
BOARD 3/32" THICK		
312-9473-308	.250	$10.40
312-9473-312	.375	12.00
312-9473-316	.500	14.70
312-9473-320	.625	15.40
312-9473-324	.750	16.70
312-9473-332	1.00	21.70
BOARD 1/8" THICK		
312-9473-408	.250	$10.40
312-9473-412	.375	12.00
312-9473-416	.500	14.70
312-9473-420	.625	15.40
312-9473-424	.750	16.70
312-9473-432	1.00	21.70

HOLE—Tapped 6-32 × .375"

E. F. Johnson Number	Lgth. Ins.	Net/ 100
BOARD 1/16" THICK		
312-9483-208	.250	$10.40
312-9483-212	.375	12.00
312-9483-216	.500	14.70
312-9483-220	.625	15.40
312-9483-224	.750	16.70
312-9483-232	1.00	21.70
BOARD 3/32" THICK		
312-9483-308	.250	$10.40
312-9483-312	.375	12.00
312-9483-316	.500	14.70
312-9483-320	.625	15.40
312-9483-324	.750	16.70
312-9483-332	1.00	21.70
BOARD 1/8" THICK		
312-9483-408	.250	$10.40
312-9483-412	.375	12.00
312-9483-416	.500	14.70
312-9483-420	.625	15.40
312-9483-424	.750	16.70
312-9483-432	1.00	21.70

HOLE—Tapped 8-32 × .375"

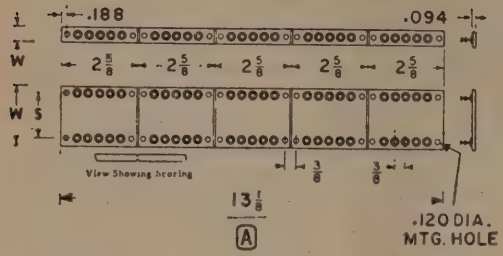
E. F. Johnson Number	Lgth. Ins.	Net/ 100
BOARD 1/16" THICK		
312-9493-208	.250	$10.40
312-9493-212	.375	12.00
312-9493-216	.500	14.70
312-9493-220	.625	15.40
312-9493-224	.750	16.70
312-9493-232	1.00	21.70
BOARD 3/32" THICK		
312-9493-308	.250	$10.40
312-9493-312	.375	12.00
312-9493-316	.500	14.70
312-9493-320	.625	15.40
312-9493-324	.750	16.70
312-9493-332	1.00	21.70
BOARD 1/8" THICK		
312-9493-408	.250	$10.40
312-9493-412	.375	12.00
312-9493-416	.500	14.70
312-9493-420	.625	15.40
312-9493-424	.750	16.70
312-9493-432	1.00	21.70

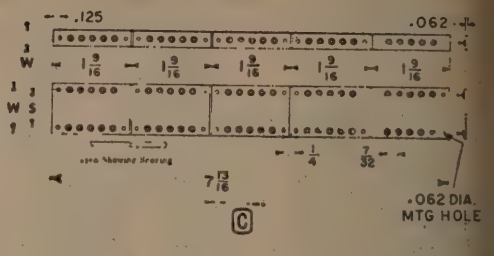
FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS, WE CAN SUPPLY ALL YOUR REQUIREMENTS,

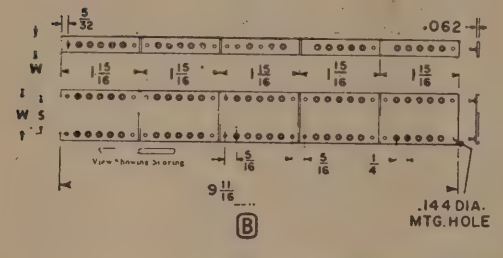
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABILITY.

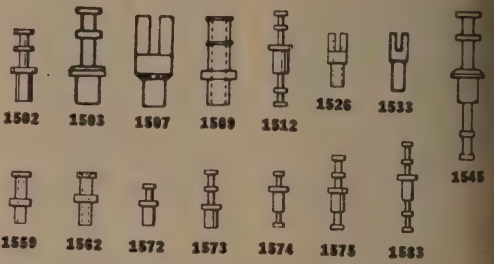
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

KEYSTONE Standardized Terminal Boards









STANDARDIZED TURRET TERMINAL BOARDS

Terminals made of brass, QQ-626, comp. 22, ½ hard. Hot dip solder finish per MIL-F-14072 Type 221. Terminals securely riveted to board. Most popular types available. Choice of PBE or GEE board. **PBE:** Paper base electrical, MIL-P-3115C, Temp. 250° F max., Type XXXP. **GEE:** Glass epoxy, MIL-P-18177, Temp. 300° F max., Type G10. Boards contain five sections, scored for easy separation. Mounting holes in each section. Boards are also available without terminals, or can be modified with terminals in all holes and scoring eliminated. Marking can be added. Further information on request.

⅜" SPACING—3/32" THICK (FIG. A)

Dimensions W	Dimensions S	No. of Terms.	Material	With 1503 Term. Key-stone No.	With 1503 Term. Net Each, Lots of* 1-19	With 1503 Term. Net Each, Lots of* 20-99	With 1509 Term. Key-stone No.	With 1509 Term. Net Each, Lots of* 1-19	With 1509 Term. Net Each, Lots of* 20-99	With 1507 Term. Key-stone No.	With 1507 Term. Net Each, Lots of* 1-19	With 1507 Term. Net Each, Lots of* 20-99	With 1545 Term. Key-stone No.	With 1545 Term. Net Each, Lots of★ 1-19	With 1545 Term. Net Each, Lots of★ 20-99
½"	.....	25	PBE	15031	$2.05	$1.79	15091	$2.65	$2.25	15071	$2.88	$2.45	15041	$3.96	$3.35
			GEE	15231	3.53	3.00	15291	3.53	3.00	15271	3.89	3.31	15241	4.30	3.65
1½"	1"	50	PBE	15032	5.09	4.32	15092	5.09	4.32	15072	5.43	4.60	15042	7.60	6.47
			GEE	15232	7.02	5.97	15292	7.02	5.97	15272	8.13	6.92	15242	8.07	6.87
1½"	1 3/16"	50	PBE	15036	5.09	4.32	15096	5.09	4.32	15076	5.43	4.60	15046	9.06	7.69
			GEE	15236	7.02	5.97	15296	7.02	5.97	15276	8.27	7.03	15246	5.43	4.60
2"	1½"	50	PBE	15033	5.16	4.39	15093	5.29	4.50	15073	5.62	4.77	15043	9.06	7.69
			GEE	15233	8.13	6.92	15293	8.13	6.92	15273	8.92	7.59	15243	8.07	9.52
2½"	2"	50	PBE	15034	5.43	4.60	15094	5.62	4.77	15074	5.75	4.90	15044	8.46	7.20
			GEE	15234	8.73	7.42	15294	8.73	7.42	15274	9.59	8.14	15244	9.86	8.37
3"	2½"	50	PBE	15035	5.62	4.77	15095	5.96	5.07	15075	6.01	5.12	15045	8.73	7.42
			GEE	15235	9.13	7.76	15295	9.13	7.76	15275	10.05	8.54	15245	10.58	8.99

MINIATURE TURRET TERMINAL BOARDS

¼" SPACING—1/16" THICK

Dimensions W	Dimensions S	No. of Terms.	Material	With 1572 Terminals Key-stone No.	With 1572 Terminals Net Each,* 1-19	With 1573 Terminals Key-stone No.	With 1573 Terminals Net Each,* 1-19	With 1574 Terminals Key-stone No.	With 1574 Terminals Net Each,* 1-19	With 1575 Terminals Key-stone No.	With 1575 Terminals Net Each,* 1-19	With 1583 Terminals Key-stone No.	With 1583 Terminals Net Each,* 1-19	With 1559 Terminals Key-stone No.	With 1559 Terminals Net Each,★ 1-19
5/16"	.....	25	PBE	15047	$2.37	15057	$2.37	15067	$2.37	15077	$3.11	15087	$3.11	15097	$2.56
			GEE	15247	2.56	15257	2.19	15267	2.56	15277	3.37	15287	3.37	15297	2.67
⅞"	¾"	50	PBE	15048	4.06	15058	4.06	15068	4.06	15078	4.36	15088	4.36	15098	4.06
			GEE	15248	4.50	15258	4.50	15268	4.50	15278	4.51	15288	4.51	15298	4.51
1⅛"	1 3/16"	50	PBE	15049	4.06	15059	4.06	15069	4.06	15079	4.36	15089	4.36	15099	4.06
			GEE	15249	4.50	15259	4.50	15269	4.50	15279	4.51	15289	4.51	15299	4.51

7/32" SPACING—1/16" THICK

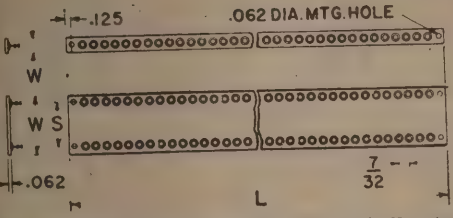
Dimensions W	Dimensions S	No. of Terms.	Material	With 1502 Terminals Key-stone No.	With 1502 Terminals Net Each,* 1-19	With 1562 Terminals Key-stone No.	With 1562 Terminals Net Each,* 1-19	With 1526 Terminals Key-stone No.	With 1526 Terminals Net Each,* 1-19	With 1512 Terminals Key-stone No.	With 1512 Terminals Net Each,* 1-19	With 1533 Terminals Key-stone No.	With 1533 Terminals Net Each,★ 1-19
5/16"	.....	25	PBE	15021	$2.10	15023	$2.10	15025	$2.10	15063	$3.11	15053	$2.12
			GEE	15221	2.37	15223	2.37	15225	2.37	15263	3.00	15253	2.61
¾"	½"	50	PBE	15028	4.62	15029	4.06	15026	4.36	15064	5.43	15054	4.62
			GEE	15228	4.78	15229	4.62	15226	4.62	15264	5.62	15254	4.78
1"	¾"	50	PBE	15022	4.62	15024	4.06	15030	4.36	15065	5.62	15056	4.62
			GEE	15222	4.98	15224	4.62	15230	4.62	15265	6.01	15256	4.78

★Larger quantity discounts available.

KEYSTONE Standardized Terminal Boards

MINIATURE TURRET TERMINAL BOARDS (CONT'D.)

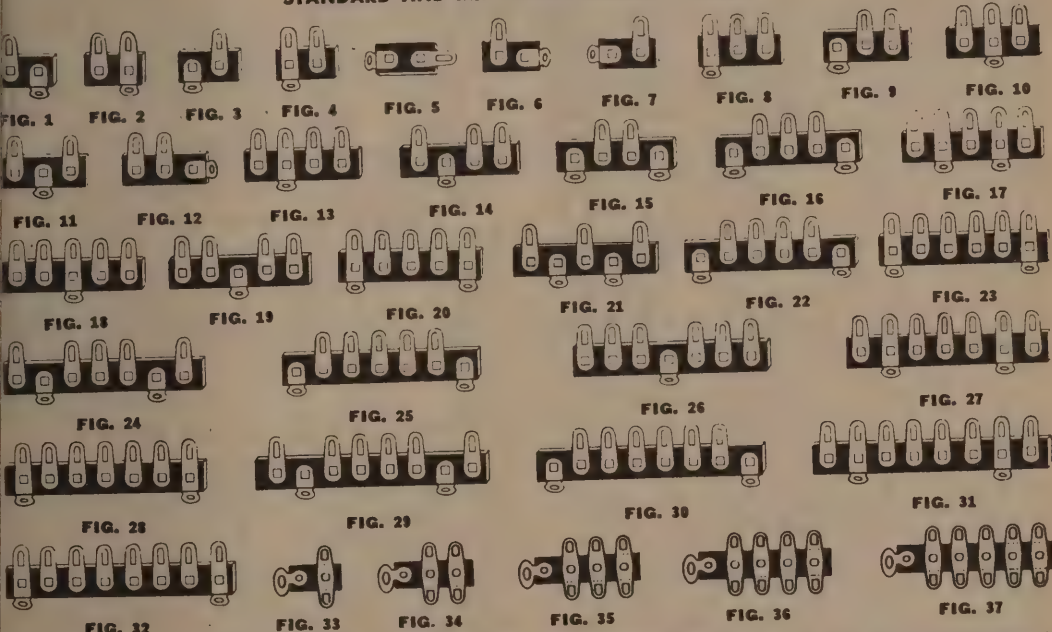
7/32" SPACING—1/16" THICK



neral use terminal boards in choice of PBE or GEE material; rtified to JAN and MIL specs. Boards also available in other ades of materials and with choice of terminals. Marking also ailable. Boards supplied with 1562 terminals (standard), se-rely riveted to board. Terminals are constructed of brass, -B-626, comp. 22, ½ hard, with hot dip solder finish per IL-F-14072. Designed for discrete component mounting, termi-ls have .043" dia. hole through center of terminal and stand " above the board. Boards are not scored; contain mounting les at each end.

Dimensions W	Dimensions S	Dimensions L	No. of Terms. Each Side	PBE Material Key-stone No.	PBE Material Net Each, ★ 1-19	GEE Material Key-stone No.	GEE Material Net Each, ★ 1-19
5/16"		1 9/16"	5	15401	$0.63	15501	$0.72
		3 3/32"	12	15402	1.13	15502	1.25
		4 5/8"	19	15403	1.64	15503	1.77
		6 5/32"	26	15404	2.19	15504	2.38
		7 11/16"	33	15405	2.75	15505	2.98
¾"	½"	1 9/16"	5	15406	1.25	15506	1.35
		3 3/32"	12	15407	2.05	15507	2.19
		4 5/8"	19	15408	3.17	15508	4.61
		6 5/32"	26	15409	4.08	15509	5.16
		7 11/16"	33	15410	5.82	15510	5.62
1"	¾"	1 9/16"	5	15411	1.02	15511	1.13
		3 3/32"	12	15412	2.36	15512	2.19
		4 5/8"	19	15413	3.20	15513	3.37
		6 5/32"	26	15414	4.39	15514	4.68
		7 11/16"	33	15415	5.55	15515	5.75

STANDARD AND MINIATURE TERMINAL STRIPS

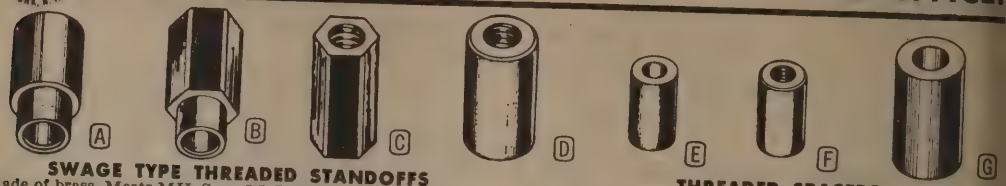


Bakelite strips support resistors, capacitors and other discrete components; also ideal for tie points. Cadmium-plated steel lugs and mounting brackets. Bakelite XP insulator, 1/16" thick. Standard strips are .375" wide with lugs on .375" centers and .140" dia. mounting holes in brackets. Miniature strips are .312" wide with lugs on .250" centers and .096" dia. mounting holes in brackets. In addition to strips listed, many other varieties available, in any configuration and materials required. Information on request.

Fig.	Keystone Number, Standard	Net per 100 1000- 249	Net per 1000 1000- 4000★	Keystone Number, Miniature	Net per 100 100- 249	Net per 1000 1000- 4000★
1	800	$5.30	$45.25	837	$ 7.90	$ 52.90
2	801	5.30	45.25	838	8.00	54.10
3	802	5.30	45.25	839	7.90	52.90
4	803	5.30	45.25	840	8.00	54.10
5	804	5.45	47.65	841	8.15	59.10
6	805	5.40	46.20	842	8.15	59.10
7	806	5.40	46.20	843	7.90	52.90
8	807	6.60	54.10	844	10.55	72.65
9	808	6.60	54.10	845	10.55	72.65
10	809	6.60	54.10	846	10.55	72.65
11	810	6.60	54.10	847	10.55	72.65
12	811	6.60	54.10	848	10.55	72.65
13	812	8.20	62.70	849	11.35	93.95
14	813	8.20	62.70	850	11.35	93.95
15	814	9.05	68.75	851	12.00	97.80
16	815	11.65	89.20	852	13.70	112.20
17	816	11.65	89.20	853	13.70	112.20
18	817	9.00	79.45	854	13.70	112.20
19	818	9.00	79.45	855	13.70	112.20
20	819	$11.65	$ 89.20	856	$13.70	$112.20
21	820	11.65	89.20	857	13.70	112.20
22	821	12.55	93.70	858	16.50	121.15
23	822	12.55	93.70	859	16.50	121.15
24	823	13.75	104.30	860	18.85	140.45
25	824	13.75	104.30	861	18.85	140.45
26	825	13.75	104.30	862	18.85	140.45
27	826	13.75	104.30	863	18.85	140.45
28	827	13.75	104.30	864	18.85	140.45
29	828	14.30	108.25	865	21.10	166.10
30	829	14.30	108.25	866	21.10	166.10
31	830	14.30	108.25	867	21.10	166.10
32	831	14.30	108.25	868	21.10	166.10
33	832	8.05	60.95	869	10.70	73.90
34	833	11.20	83.15	870	13.15	96.50
35	834	13.55	98.05	871	15.70	123.85
36	835	15.05	112.30	872	21.20	156.00
37	836	19.70	127.25	873	24.80	183.80

★Larger quantity discounts available.

KEYSTONE STANDARDIZED BUSHINGS, STAND-OFFS AND SPACE



SWAGE TYPE THREADED STANDOFFS

Made of brass. Meets MIL Spec QQ-B-626A, Comp. 22½ Hard.

ROUND TYPE (FIG. A)

Nickel plated per MIL-F-14072 QQ-N-290 Type VII.

#2 O.D.; 2-56 Thread

Keystone No.	For Panel Th.	Ht. Above Panel	Swage Size, Inches L. x Dia.	Net per 100	Net per 1000
1589-2	1/16"	1/4"	.109 x .125	$ 7.25	$59.95
1589-3	3/32"	1/4"	.140 x .125	7.25	59.95
1590-2	1/16"	3/16"	.109 x .125	7.25	59.95
1590-3	3/32"	3/16"	.140 x .125	7.25	59.95
1591-2	1/16"	1/4"	.109 x .125	9.10	70.60
1591-3	3/32"	1/4"	.140 x .125	9.10	70.60
1596-2	1/16"	3/8"	.109 x .125	12.20	91.50
1596-3	3/32"	3/8"	.140 x .125	12.20	91.50
¼" O.D.; 4-40 Thread					
1560 A	1/16"	1/8"	.109 x .187	$ 6.80	$ 53.25
1560 F	3/32"	1/8"	.140 x .187	6.80	53.25
1650-2	1/16"	1/8"	.109 x .187	8.45	56.65
1650-3	3/32"	1/8"	.140 x .187	8.45	56.65
1651-2	1/16"	3/16"	.109 x .187	8.05	64.85
1651-3	3/32"	3/16"	.140 x .187	8.05	64.85
1623-2	1/16"	1/4"	.109 x .187	13.40	93.90
1623-3	3/32"	1/4"	.140 x .187	13.40	93.90
1624-2	1/16"	3/8"	.109 x .187	13.45	94.45
1624-3	3/32"	3/8"	.140 x .187	13.45	94.45
1625-2	1/16"	1/4"	.109 x .187	16.35	105.00
1625-3	3/32"	1/4"	.140 x .187	16.35	105.00
1652-2	1/16"	1"	.109 x .187	14.60	121.05
1652-3	3/32"	1"	.140 x .187	14.60	121.05
¼" O.D.; 6-32 Thread					
1560 B	1/16"	1/8"	.109 x .187	$ 6.80	$ 53.25
1560 C	3/32"	1/8"	.140 x .187	6.80	52.35
1560 D	1/16"	3/16"	.171 x .187	6.80	53.25
1612-2	1/16"	3/16"	.109 x .187	6.80	53.25
1612-3	3/32"	3/16"	.140 x .187	6.80	53.25
1612-4	1/8"	3/16"	.171 x .187	6.80	53.25
1546	1/16"	1/4"	.109 x .187	8.45	56.65
1546 B	3/32"	1/4"	.140 x .187	8.45	56.65
1546 D	1/8"	1/4"	.171 x .187	8.45	56.65
1561 B	1/16"	3/8"	.109 x .187	8.05	64.85
1561 C	3/32"	3/8"	.140 x .187	8.05	64.85
1561 D	1/8"	3/8"	.171 x .187	8.05	64.85
1604-2	1/16"	1/2"	.109 x .187	13.40	93.90
1604-3	3/32"	1/2"	.140 x .187	13.40	93.90
1604-4	1/8"	1/2"	.171 x .187	13.40	93.90
1605-2	1/16"	5/8"	.109 x .187	13.45	94.45
1605-3	3/32"	5/8"	.140 x .187	13.45	94.45
1605-4	1/8"	5/8"	.171 x .187	13.45	94.45
1608-2	1/16"	3/4"	.109 x .187	16.35	105.00
1608-3	3/32"	3/4"	.140 x .187	16.35	105.00
1608-4	1/8"	3/4"	.171 x .187	16.35	105.00
1609-2	1/16"	1"	.109 x .187	16.65	119.65
1609-3	3/32"	1"	.140 x .187	16.65	119.65
1609-4	1/8"	1"	.171 x .187	16.65	119.65

HEX TYPE (FIG. B)

Cadmium plated per QQ-P-416 Type 2, Class B; and, clear chromate.

¼" Hex Across Flats; 4-40 Thread

1653-2	1/16"	1/8"	.109 x .187	$ 8.45	$ 56.65
1653-3	3/32"	1/8"	.140 x .187	8.45	56.65
1627-2	1/16"	1/4"	.109 x .187	9.80	63.55
1627-3	3/32"	1/4"	.140 x .187	9.80	63.55
1628-2	1/16"	1/2"	.109 x .187	10.30	73.10
1628-3	3/32"	1/2"	.140 x .187	10.30	73.10
1629-2	1/16"	1/2"	.109 x .187	13.90	96.20
1629-3	3/32"	1/2"	.140 x .187	13.90	96.20
1654-2	1/16"	3/4"	.109 x .187	13.30	97.85
1654-3	3/32"	3/4"	.140 x .187	13.30	97.85
1655-2	1/16"	3/4"	.109 x .187	13.50	110.00
1655-3	3/32"	3/4"	.140 x .187	13.50	110.00
1630-2	1/16"	1"	.109 x .187	19.20	130.30
1630-3	3/32"	1"	.140 x .187	19.20	130.30
¼" Hex Across Flats; 6-32 Thread					
1620-2	1/16"	1/8"	.109 x .187	$ 8.45	$59.95
1620-3	3/32"	1/8"	.140 x .187	8.45	59.95
1620-4	1/8"	1/8"	.171 x .187	8.45	59.95
1621-2	1/16"	1/4"	.109 x .187	8.55	62.35
1621-3	3/32"	1/4"	.140 x .187	8.55	62.35
1621-4	1/8"	1/4"	.171 x .187	8.55	62.35
1622-2	1/16"	3/8"	.109 x .187	10.30	73.10
1622-3	3/32"	3/8"	.140 x .187	10.30	73.10
1622-4	1/8"	3/8"	.171 x .187	10.30	73.10

STAKING TOOLS FOR ABOVE STANDOFFS



Precision made, heat treated, plated tools. Give professional appearance to the job. Set consists of top staking tool and anvil.

Keystone Number	For Bushing O.D.	For Bushing Thread	Net Each
TL-19	5/32"	2-56	$3.75
TL-20	1/4"	4-40	3.75
TL-21	1/4"	6-32	3.75

THREADED SPACERS

Made of brass per MIL Spec QQ-B-626A, Comp. 22½ Ha
Round type is nickel-plated per MIL-F-14072, QQ-N-290 Ty
VII; hex type is cadmium plated per QQ-P-416 Type 2, Class
and, clear chromate.

Size, Inches L. x Dia.*	Thread	Hex Type (Fig. C) Keystone No.	Net per 100	Net per 1000	Round Type (Fig. D) Keystone No.	Net per 100	Net per 1000
1/4 x 3/16	4-40	1450	$ 6.60	$47.50	1547	$ 7.45	$53.
1/2 x 3/16	4-40	1656	9.20	69.75	1657	9.20	70.
3/4 x 3/16	4-40	1656A	13.10	87.65	1657A	11.90	79.
1 x 3/16	4-40	1656B	15.65	102.20	1657B	14.25	98.
1/4 x 1/4	4-40	1450A	8.80	61.70	1547A	8.30	59.
3/8 x 1/4	4-40	1450B	9.10	69.95	1547B	8.90	65.
1/2 x 1/4	4-40	1450C	10.60	84.25	1547C	10.55	81.
3/4 x 1/4	4-40	1450D	14.25	95.50	1547D	14.80	100.
1 x 1/4	4-40	1450E	16.85	109.25	1547E	16.00	103.
1/4 x 1/4	6-32	1451A	8.80	61.70	1548A	8.30	59.
3/8 x 1/4	6-32	1451B	9.10	69.95	1548B	8.90	65.
1/2 x 1/4	6-32	1451C	9.65	76.60	1548C	9.60	74.
5/8 x 1/4	6-32	1451D	12.20	86.15	1548D	12.20	82.
3/4 x 1/4	6-32	1451E	14.25	95.50	1548E	14.80	100.
1 x 1/4	6-32	1635	16.85	105.25	1548F	16.00	103.
1/4 x 1/4	8-32	1474A	8.80	61.70	1692A	8.30	59.
3/8 x 1/4	8-32	1474B	9.10	69.95	1692B	8.90	65.
1/2 x 1/4	8-32	1474C	10.60	84.25	1692C	10.55	81.
3/4 x 1/4	8-32	1474D	14.25	95.50	1692D	14.80	100.
1 x 1/4	8-32	1474E	16.85	109.25	1692E	16.00	103.
1/8 x 3/8	8-32	1452A	14.00	99.75	1549A	14.75	99.
1/2 x 3/8	8-32	1452B	19.35	136.60	1549B	17.20	120.
5/8 x 3/8	8-32	1452C	20.15	141.15	1549C	20.15	139.
3/4 x 3/8	8-32	1452D	21.10	152.85	1549D	22.15	149.
1 x 3/8	8-32	1452E	23.50	164.80	1549E	23.50	161.

*Or hex across flats.

BOTH ENDS TAPPED HEX SPACERS

Extra long length, ideal as standoff legs for Keystone pre-punche boards or other special application. Made of brass, cadmiu plated per QQ-P-416 Type 2, Class B; and, clear chromate Both ends tapped 6-32, 3/8" deep.

Keystone No.	Thread	Size, Inches L. x Hex	Net Each 1-19	Net Each 20-99	Net/100 100-249
1635	6-32	1 x 1/4	...	...	$16.85
1636	6-32	1 1/4 x 1/4	$0.25	$0.24	22.45
1637	6-32	1 1/2 x 1/4	.26	.25	23.55
1638	6-32	1 3/4 x 1/4	.33	.30	27.30
1639	6-32	2 x 1/4	.34	.31	28.25
1642	6-32	2 1/4 x 1/4	.46	.39	34.25
1643	6-32	2 1/2 x 1/4	.51	.46	38.50

ROUND BRASS SPACERS (FIG. G)

Nickel plated per MIL-F-14072, QQ-N-290 Type VII. O.D., 1/4".

Lgth., In.	For #4 Screw Keystone Number	For #4 Screw Net per 100	For #6 Screw Keystone Number	For #6 Screw Net per 100	For #8 Screw Keystone Number	For #8 Screw Net per 100
1/4	1454A	$ 5.25	1457A	$ 5.25	1480	$ 5.25
3/8	1454B	5.95	1457B	5.95	1481	5.95
1/2	1454C	7.00	1457C	7.00	1482	7.00
3/4	1454D	8.75	1457D	8.75	1483	8.75
1	1454E	11.75	1457E	11.75	1484	11.75

PHENOLIC SPACERS

Resists abrasions and chemicals. Low moisture absorption, excellent dielectric and good mechanical strength. Made of PBE grade, natural color phen. O.D., 1/4". Special sizes on request.

FOR #4 SCREW

Lgth., In.	Drilled Hole Spacers (Fig. E) Keystone No.	Net per 100	Net per 1000	Tapped Hole Spacers (Fig. F) Keystone No.	Net per 100	Net per 1000
1/4	360	$ 4.55	$ 37.85	376	$10.35	$ 82.50
3/8	361	4.75	40.40	377	11.15	89.35
1/2	362	5.90	51.50	378	12.05	96.25
3/4	363	7.50	63.75	379	13.75	110.00
1	364	9.40	82.95	380	15.85	126.50
1 1/2	365	15.10	117.60	381*	21.85	166.80
2	366	16.80	134.40	382*	26.90	198.25
FOR #6 SCREW						
1/4	367	$ 4.55	$ 37.85	383	$10.35	$ 79.75
3/8	368	4.75	40.40	384	11.15	86.60
1/2	369	5.90	51.50	385	12.05	93.50
3/4	370	7.50	63.75	386	13.75	107.25
1	371	9.40	82.95	387	15.85	123.75
1 1/2	372	15.10	117.60	388*	21.85	164.40
2	373	16.80	134.40	389*	26.90	194.90
FOR #8 SCREW						
1/4	1490	$ 4.55	$ 37.85	390	$10.35	$ 78.35
3/8	1491	4.75	40.40	391	11.15	85.25
1/2	1492	5.90	51.50	392	12.05	92.10
3/4	1493	7.50	63.75	393	13.75	105.85
1	1494	9.40	82.95	394	15.85	122.35
1 1/2	374	15.10	117.60	395*	21.85	159.60
2	375	16.80	134.40	396*	26.90	193.20

*Tapped 3/8" each end.

KEYSTONE Hardware

HINGED STANDOFFS FOR TERMINAL BOARDS

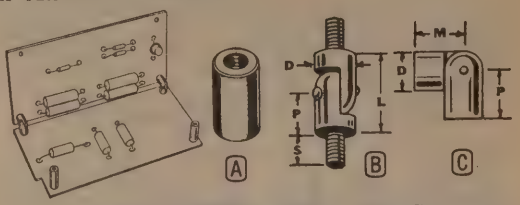
ves time, space and service cost. Interconnects circuits or vices without danger of shorting. Wiring exposed for easy test. ade of brass per MIL Spec. QQ-B-626A, Comp. 22½ Hard. dmium plated per QQ-P-416 Class 2, Type 2; and, gold iridite.

STANDOFFS FOR FRONT OF BOARDS (FIG. A)

Keystone Number	For Keystone Number	Lgth., In.	Net per 100	Net per 1000
			100-249	1M-4M
1657A	351	¼	$11.90	$ 79.70
1657B	352	1	14.25	90.55
1548E	353	¾	14.80	100.70
1548F	354	1	16.00	100.70
1692D	355	¾	14.80	103.95
1692E	356	1	16.00	103.95
1657	357	½	9.20	70.75
1548C	358	½	9.60	74.30
1692C	359	½	10.55	81.75

MALE HINGED STANDOFFS (FIG. B)

Keystone Number	Thread	Size, Inches D	S	P	Net Each, Lots of 1-19	20-99	100-240
357	4-40	.187	¼	¼	$0.42	$0.39	$0.35
358	6-32	.250	5/16	¼	.43	.40	.36
359	8-32	.250	5/16	¼	.43	.40	.36



FEMALE HINGED STANDOFFS (FIG. C)

Keystone Number	Thread	Size, Inches D	M	P	Net Each, Lots of 1-19	20-99	100-240
351	4-40*	.187	.375	.375	$0.39	$0.36	$0.32
352	4-40	.187	.375	.625	.42	.38	.35
353	6-32*	.250	.375	.375	.41	.37	.34
354	6-32	.250	.375	.625	.43	.39	.36
355	8-32*	.250	.375	.375	.41	.37	.34
356	8-32	.250	.375	.625	.43	.39	.36

*.172″ deep; all others, .250″ deep.

ALUMINUM ECONOMY SPACERS



Made of flat strip aluminum er 5052-H34 per QQ 318 C, nd rolled on precision equip- ent. Assures maximum bear- g surface, square ends.

SIZE

Spacer For	Size, Inches I.D.	O.D.
#4	.125	.167
#6	.151	.193
#8	.178	.232

Length, Inches	For #4 Keystone No.	Net per 100	Net per 1000	For #6 Keystone No.	Net per 100	Net per 1000	For #8 Keystone No.	Net per 100	Net per 1000
3/16	397	$2.20	$17.75	...	.....	.....	....	.....	.....
¼	398	2.40	18.00	405	$2.45	$20.00	412	$3.25	$24.85
5/16	399	2.40	18.35	406	2.65	20.65	413	3.25	25.20
⅜	400	2.45	18.80	407	2.75	21.40	414	3.30	25.90
7/16	401	2.45	19.70	408	2.95	22.10	415	3.50	27.05
½	402	2.65	20.65	409	3.05	22.85	416	3.60	28.15
5/8	403	2.75	21.65	410	3.20	23.65	417	3.70	29.05
¾	418	2.95	22.45	425	3.20	24.20	432	2.50	29.90
⅞	419	3.05	23.65	426	3.25	25.40	433	3.85	30.35
1	420	3.25	25.10	427	3.50	25.60	434	3.95	31.70
1¼	421	3.85	30.00	428	4.60	32.00	435	4.60	36.95
1½	422	4.40	35.15	429	5.15	42.00	436	5.15	42.00
1¾	...	....	.....	430	4.60	36.95	437	5.95	47.80
2	..	....	.....	...	....	.....	438	6.60	54.10

PHENOLIC INSTRUMENT BOXES



Molded, glossy black phenolic per MIL-M-14, CFG boxes for general purpose use. Walls .125″ thick; 6-32 x ⅜″ d. threaded brass inserts imbed- ed in each corner. Choice of .065″ th. aluminum or 3/32″ th. phenolic panels will flush- mount in position for the inserts.

Size, Inches W. x D. x H.	Case Only Keystone No.	Net Each, Lots of 1-19	20-99	Phenolic Panel Keystone No.	Net Each, Lots of 1-19	20-99	Aluminum Panel Keystone No.	Net Each, Lots of 1-19	20-99
3¾ x 2 x 6¼	700	$1.43	$1.33	2037	$0.48	$0.44	2046	$0.66	$0.64
5¼ x 2⅝ x 6¾	701	2.38	2.23	2038	.55	.53	2047	.85	.83
7⅜ x 3 x 8⅜	702	4.55	4.20	2039	.90	.88	2048	1.32	1.24
2⅞ x 1 7/16 x 3 15/16	703*	.73	.69	2042	.38	.34	2044	.47	.42
3 1/16 x 2¼ x 5⅞	704*	1.27	1.21	2043	.55	.51	2045	.72	.65

*Has 4-40 tapped hole in each corner, no brass insert.

STANDARD LAMINATED PHENOLIC MATERIAL

The finest grade laminated phenolic sheets available in choice of various grades. **Paper Base:** NEMA grade XXXP-MIL-P-3115C, electrical-color natural. Used for panels and terminal boards. Excellent electrical grade and dimensional stability. Operating temperature, 250° F max. continuous. **Glass Epoxy:** NEMA grade G-10, MIL-P-18177B-GEE. Color, green. Superior chemical resistance, excellent electrical and mechanical properties. Operating temperature, 300° F max. continuous. **Copper Clad Laminates:** XXXP MIL-P-13949 TYPE PP and glass epoxy MIL-P-13949B TYPE FL-GE are used mainly for printed circuitry. Copper foil serves as the conductor and the laminate provides the insulating support. 2-oz. foil is laminated to one or both sides of the insulator. **Fiberglass Reinforced Polyester:** NEMA grade GPO-1. Color, tan. Excellent mechanical and electrical properties. Fabricates similar to phenolic and can be punched cold. **Special sizes cut on request.**

1/16″ THICK MATERIAL

Size, Inches W. x L.	XXXP Natural Keystone No.	Net Each, Lots of 1-19	20-99	Glass Epoxy Keystone No.	Net Each, Lots of 1-19	20-99	F/G Polyester Keystone No.	Net Each, Lots of 1-19	20-99
5/16 x 7 13/16	2006	$0.20	$0.16	2022	$0.35	$0.32	2304	$0.17	$0.14
¼ x 7 13/16	2020	.24	.22	2023	.37	.34	2305	.24	.20
1 x 7 13/16	2021	.26	.25	2024	.40	.37	2306	.29	.25
2 x 4½	1970	.26	.24	1978	.47	.46	2307	.29	.25
2¼ x 3	1971	.24	.23	1979	.36	.32	2308	.26	.23
3 x 4½	1972	.36	.32	1980	.68	.62	2309	.36	.32
4½ x 6½	1973	.60	.55	1981	1.26	1.13	2310	.62	.56
4½ x 8½	1974	.79	.73	1982	1.66	1.58	2311	.80	.68
8½ x 17	1975	2.58	2.45	1983	5.28	5.15	2312	2.90	2.46
9 x 12	1976	1.92	1.85	1984	3.90	3.77	2313	2.10	1.79

1/16″ THICK XXXP COPPER CLAD

Size, Inches W. x L.	One Side Keystone Number	Net Ea., Lots 1-19	20-99	Two Sides Keystone Number	Net Ea., Lots 1-19	20-99
2 x 4½	1985	$0.50	$0.43	1992	$0.52	$0.47
2¼ x 3	1986	.50	.43	1993	.40	.35
3 x 4½	1987	.54	.49	1994	.70	.66
4½ x 6½	1988	.92	.84	1995	1.27	1.19
4½ x 8½	1989	1.15	1.06	1996	1.63	1.45
8½ x 17	1990	3.88	3.64	1997	5.82	5.16
9 x 12	1991	3.12	2.83	1998	4.38	3.90

1/16″ THICK GLASS EPOXY COPPER CLAD

Size, Inches W. x L.	One Side Keystone Number	Net Ea., Lots 1-19	20-99	Two Sides Keystone Number	Net Ea., Lots 1-19	20-99
2 x 4½	1999	$0.60	$0.53	2013	$0.79	$0.72
2¼ x 3	2007	.60	.53	2014	.78	.60
3 x 4½	2008	1.00	.90	2015	1.12	1.01
4½ x 6½	2009	1.96	1.75	2016	2.20	1.98
4½ x 8½	2010	3.24	2.24	2017	2.84	2.56
8½ x 17	2011	9.48	8.64	2018	10.20	9.60
9 x 12	2012	6.74	6.07	2019	7.49	7.08

STANDARDIZED PLUG-IN HOUSINGS
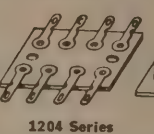


Ideal for packaging relays, logic packages, net- works, etc. Housings supplied complete with octal header and screws. Three choices of material: Polystyrene, butyrate, or nylon. Headers are molded of GP black phenolic; brass nickel-plated pins. Four sizes for a wide range of applications.

Keystone No.	Size, Inches W. x L. x H.	Material	Color	Net Each, Lots of 1-19	20-99
660	1⅜ x 1⅜ x 1 9/16	Butyrate	Clear	$1.10	$1.04
661	1⅜ x 1⅜ x 1 9/16	Nylon	White	1.06	1.01
662	1⅜ x 1⅜ x 1 9/16	Polystyrene	Clear	.90	.82
641	1⅜ x 1⅜ x 1 9/16	Polystyrene	Opaque black	.90	.83
642	1⅜ x 1⅜ x 1 9/16	Polystyrene	Transp. red	.90	.83
663	1⅜ x 1⅜ x 1 15/16	Butyrate	Clear	.95	.88
664	1⅜ x 1⅜ x 1 15/16	Nylon	White	1.06	1.01
665	1⅜ x 1⅜ x 1 15/16	Polystyrene	Clear	.91	.87
643	1⅜ x 1⅜ x 1 15/16	Polystyrene	Opaque black	.85	.78
644	1⅜ x 1⅜ x 1 15/16	Polystyrene	Transp. red	.85	.78
650	1 15/16 x 1 15/16 x 2 31/32	Butyrate	Clear	2.12	1.89
668	1 15/16 x 1 15/16 x 2 31/32	Polystyrene	Clear	1.08	1.03
677	1 15/16 x 1 15/16 x 2 31/32	Polystyrene	Opaque black	1.08	1.03
678	1 15/16 x 1 15/16 x 2 31/32	Polystyrene	Transp. red	1.13	1.07
639	2⅜ x 1¼ x 2 5/16	Polystyrene	Clear	1.55	1.42

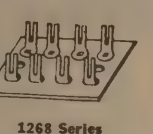
KEYSTONE Standardized Terminal Boards



15032, 15232, 15106, 15306

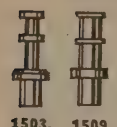


1204 Series



1268 Series

SCORED TURRET TERMINAL BOARDS



1503, 1502

1509



1562



1507, 1526, 1533



1545, 1512

Cut production cost by eliminating tooling and set-up charge required by non-standardized boards. Terminals securely riveted and hot tinned for easy soldering. Material 3/32" PBE, natural phenolic to MIL-P-3115C, Type XXXP specifications; or GEE, glass epoxy to MIL-P-18177, Type G-10 specifications. Five 2 5/8" sections scored for easy separation; scoring marks can be eliminated. Marking can be added. Five terminals, each side, per section; spare holes on each end (of groups of 5 terminals) may be used for mounting, or extra terminals added. Terminals (and holes) spaced 3/8" apart, center to center. Holes .120" dia., No. 3.

WITH TURRET 1503 TERMINALS

With No. 1503 (NAS 707T3) terminals installed; extend .360" h., above board.

Board Width	No. Terms.	Term. Rows Spaced (D)	Material PBE: Key-stone No.	Material PBE: Net Each, Lots of 1-19	Material PBE: Net Each, Lots of 20-99	Material GEE: Key-stone No.	Material GEE: Net Each, Lots of 1-19	Material GEE: Net Each, Lots of 20-99
1/2"	25	Single	15031	$2.05	$1.79	15231	$3.53	$3.00
1 1/2"	50	1"	15032	5.09	4.32	15232	7.02	5.97
2"	50	1 1/2"	15033	5.16	4.39	15233	8.13	6.92
2 1/2"	50	2"	15034	5.43	4.60	15234	8.73	7.42
3"	50	2 1/2"	15035	5.62	4.77	15235	9.13	7.76
1 1/2"	50	1 13/16"	15036	5.09	4.32	15236	7.02	5.97

WITH TURRET 1509 TERMINALS

Has No. 1509 terminals mounted; extend .312" h., above board.

1/2"	25	Single	15091	$2.65	$2.25	15291	$3.53	$3.00
1 1/2"	50	1"	15092	5.09	4.32	15292	7.02	5.97
2"	50	1 1/2"	15093	5.29	4.50	15293	8.13	6.92
2 1/2"	50	2"	15094	5.62	4.77	15294	8.73	7.42
3"	50	2 1/2"	15095	5.36	5.07	15295	9.13	7.76
1 1/2"	50	1 13/16"	15096	5.09	4.32	15296	7.02	5.97

WITH FORK TYPE 1507 TERMINALS

Has No. 1507 fork terminal mounted; extend .328" h., above board.

1/2"	25	Single	15071	$2.88	$2.45	15271	$3.89	$3.31
1 1/2"	50	1"	15072	5.43	4.60	15272	8.13	6.92
2"	50	1 1/2"	15073	5.62	4.77	15273	8.92	7.59
2 1/2"	50	2"	15074	5.75	4.90	15274	9.59	8.14
3"	50	2 1/2"	15075	6.01	5.12	15275	10.05	8.54
1 1/2"	50	1 13/16"	15076	5.43	4.60	15276	8.27	7.03

WITH 1545 TERMINALS

Has No. 1545 terminals mounted; extend .360" h., above board.

1/2"	25	Single	15041	$3.96	$3.35	15241	$4.30	$3.65
1 1/2"	50	1"	15042	7.60	6.47	15242	9.06	7.69
2"	50	1 1/2"	15043	8.07	6.87	15243	9.52	8.10
2 1/2"	50	2"	15044	8.46	7.20	15244	9.86	8.37
3"	50	2 1/2"	15045	8.73	7.42	15245	10.58	8.99
1 1/2"	50	1 13/16"	15046	8.07	6.87	15246	9.06	7.69

MINIATURE TURRET TERMINAL BOARDS

Same as standard type but only 1/16" thick. Sections 1 13/16" long. No. 42 size holes .093" dia.; spaced on 7/32" centers. Choice of five terminals.

WITH TURRET 1502 TERMINALS

Has No. 1502 (NAS 705T2) terminals installed; extend .218" h., above board.

5/16"	25	Single	15021	$2.10	$1.77	15221	$2.37	$2.01
3/4"	50	1/2"	15028	4.62	3.93	15228	4.78	4.07
1"	50	3/4"	15022	4.62	3.93	15222	4.98	4.14

WITH DRILLED TURRET 1562 TERMINALS

Has No. 1562 terminals installed; extend .156" h., above board.

5/16"	25	Single	15023	$2.10	$1.77	15223	$2.37	$2.01
3/4"	50	1/2"	15029	4.06	3.45	15229	4.62	3.93
1"	50	3/4"	15024	4.06	3.45	15224	4.62	3.93

WITH FORK TYPE 1526 TERMINALS

Has No. 1526 terminals installed; fits .062" dia. hole; extend .156" h., above board.

5/16"	25	Single	15025	$2.10	$1.77	15225	$2.37	$2.01
3/4"	50	1/2"	15026	4.36	3.70	15226	4.62	3.93
1"	50	3/4"	15030	4.36	3.70	15230	4.62	3.93

WITH FORK TYPE 1533 TERMINALS

Has No. 1533 terminals installed; fits .060" dia. hole; extend .156" h., above board.

5/16"	25	Single	15053	$2.12	$1.79	15253	$2.61	$2.22
3/4"	50	1/2"	15054	4.62	3.93	15254	4.78	4.07
1"	50	3/4"	15056	4.62	3.93	15256	4.78	4.07

WITH 1512 TERMINALS

Has No. 1512 terminals installed; extend .218" h., above board.

5/16"	25	Single	15063	$3.11	$2.65	15263	$3.00	$2.55
3/4"	50	1/2"	15064	5.43	4.60	15264	5.62	4.77
1"	50	3/4"	15065	5.62	4.77	15265	6.01	5.12

READI-MADE TERMINAL BOARDS

Inexpensive line of terminal boards for general use. Provide rigid mounting for resistors, capacitors, etc. Two 5/32" dia. mounting holes provided 3/16" from ends. Boards are 1/16" thick phenolic. Choice of three terminal types. No. 1204 cadmium plated, No. 1268 and 1539 are hot tinned for easy soldering. Terminals spaced 1/8" centers and 5/32" from edge of board.



1268



1204



1539



1503



1562

Keystone No.	With Terms.	Board Size, Inches W. x L.	Term. Rows Spaced	No. Terms./ Side	Net Each, Lots of 1-19	Net Each, Lots of 20-99
1204-19	1204	1/2 x 7 1/8	Single	19	$0.86	$0.81
1204-10	1204	1 x 1 7/8	1 1/16"	5	.54	.48
1204-12	1204	1 x 2 1/4	1 1/16"	6	.66	.58
1204-28	1204	1 x 5 1/4	1 1/16"	14	1.18	1.05
1204-20	1204	1 3/4 x 3 1/4	1 7/16"	10	.97	.87
1204-22	1204	1 3/4 x 4 1/8	1 7/16"	11	1.06	.97
1204-38	1204	1 3/4 x 7 1/8	1 7/16"	19	1.87	1.48
1268-19	1268	1/2 x 7 1/8	Single	19	.86	.81
1268-10	1268	1 x 1 7/8	1 1/16"	5	.54	.48
1268-12	1268	1 x 2 1/4	1 1/16"	6	.66	.58
1268-28	1268	1 x 5 1/4	1 1/16"	14	1.18	1.05
1268-20	1268	1 3/4 x 3 1/4	1 7/16"	10	.97	.87
1268-22	1268	1 3/4 x 4 1/8	1 7/16"	11	1.06	.97
1268-38	1268	1 3/4 x 7 1/8	1 7/16"	19	1.87	1.51
1239-19	1539	1/2 x 7 1/8	Single	19	1.75	1.64
1239-10	1539	1 x 1 7/8	1 1/16"	5	.97	.90
1239-12	1539	1 x 2 1/4	1 1/16"	6	1.23	1.14
1239-28	1539	1 x 5 1/4	1 1/16"	14	3.19	2.39
1239-20	1539	1 3/4 x 3 3/4	1 7/16"	10	1.85	1.75
1239-22	1539	1 3/4 x 4 1/8	1 7/16"	11	1.96	1.85
1239-38	1539	1 3/4 x 7 1/8	1 7/16"	19	3.27	3.05

UNSCORED TURRET TERMINAL BOARDS

Meet commercial and military specifications. Hot-tinned terminals permit easy soldering. Material 3/32" PBE, natural phenolic to MIL-P-3115C, Type XXXP specifications; or GEE, glass epoxy to MIL-P-18177, Type G-10 specifications. Mounting holes .120" dia., .188" from ends. No. 1503-3 HTD terminals, spaced 3/8" center-to-center; extends 2 3/4" h., above board.

Board Width	Term. Rows Spaced (D)	No. Terms. Each Side*	Material PBE: Key-stone No.	Material PBE: Net Each, Lots of 1-19	Material PBE: Net Each, Lots of 20-99	Material GEE: Key-stone No.	Material GEE: Net Each, Lots of 1-19	Material GEE: Net Each, Lots of 20-99
1/2"	Single	5	15101	$0.79	$0.69	15301	$0.86	$0.74
		12	15102	1.44	1.23	15302	1.52	1.30
		19	15103	2.05	1.75	15303	2.30	1.96
		26	15104	2.75	2.32	15304	3.07	2.62
		33	15105	3.39	2.88	15305	3.96	3.35
1 13/16"	1/4"	5	15106	1.20	1.02	15306	1.52	1.30
		12	15107	2.52	2.14	15307	3.00	2.55
		19	15108	3.62	3.08	15308	4.69	3.99
		26	15109	4.75	4.04	15309	5.75	4.90
		33	15110	5.96	5.07	15310	7.94	6.75
1 1/2"	1"	5	15111	1.24	1.06	15311	1.52	1.30
		12	15112	2.56	2.07	15312	3.23	2.73
		19	15113	3.70	3.15	15313	4.97	4.22
		26	15114	4.90	4.14	15314	6.96	5.90
		33	15115	5.96	5.07	15315	8.46	7.20
2"	1 1/2"	5	15116	1.35	1.15	15316	1.98	1.69
		12	15117	2.71	2.30	15317	3.43	2.91
		19	15118	3.97	3.37	15318	4.75	4.04
		26	15119	4.63	3.94	15319	7.28	6.23
		33	15120	6.15	5.22	15320	8.60	7.31
2 1/2"	2"	5	15121	1.46	1.24	15321	2.05	1.75
		12	15122	2.77	2.35	15322	3.67	3.12
		19	15123	4.04	3.43	15323	5.62	4.77
		26	15124	4.96	4.22	15324	7.81	6.64
		33	15125	6.42	5.45	15325	9.40	7.98
3"	2 1/2"	5	15126	1.52	1.30	15326	2.21	1.87
		12	15127	2.90	2.46	15327	3.77	3.22
		19	15128	4.22	3.76	15328	6.01	5.12
		26	15129	5.16	4.39	15329	7.81	6.64
		33	15130	6.61	5.62	15330	10.05	8.54

UNSCORED MINIATURE TURRET TERMINAL BOARDS

Same as standard type but only 1/16" thick. Mounting holes .062" dia., .125" from ends. No. 1562 terminals, often specified for support and connection of transistors, resistors, etc., spaced 7/32" center-to-center; extends 5/32" h., above board.

5/16"	Single	5	15401	$0.63	$0.58	15501	$0.72	$0.64
		12	15402	1.13	.97	15502	1.25	1.07
		19	15403	1.64	1.39	15503	1.77	1.50
		26	15404	2.19	1.85	15504	2.38	2.02
		33	15405	2.75	2.32	15505	2.98	2.53
3/4"	1/2"	5	15406	1.25	1.07	15506	1.35	1.15
		12	15407	2.05	1.75	15507	2.19	1.85
		19	15408	3.17	2.70	15508	4.61	3.93
		26	15409	4.08	3.48	15509	5.16	4.39
		33	15410	5.82	4.50	15510	5.62	4.77
1"	3/4"	5	15411	1.02	.87	15511	1.13	.97
		12	15412	2.36	2.01	15512	2.19	1.85
		19	15413	3.20	2.71	15513	3.37	2.88
		26	15414	4.39	3.75	15514	4.68	3.98
		33	15415	5.55	4.73	15515	5.75	4.90

*For Turret Boards—2 5/8" board length for 5 terminals; 5 1/4" for 12; 7 7/8" for 19; 10 1/2" for 26; 13 1/8" for 33 terminals. For Miniature Boards—1 13/16" board length for 5 terminals; 3 3/32" for 12; 4 5/8" for 19; 6 5/32" for 26; 7 11/16" for 33 terminals.

KEYSTONE Terminal Boards, Tools

STANDARDIZED KWIK DISCONNECT TERMINAL BOARDS



ermit solderless connections of several rcuits to a common feed line. Material: " thick fiberglass, NEMA GRADE PO-1; rated for continuous operation at 5° C (300° F). Sheet color, tan. Backing rips, ½" thick fiber with drilled mount- g holes. Terminals made of brass per IL QQ-B-613; No. 1253, 1254 and 1255 e .018" thick hot tinned; No. 1256, 1257 d 1258 are .032" thick with bright ass plating. Mounting holes, .128" dia., " from ends.

D TERMINALS FOR KWIK BOARDS

Keystone Number	Size, Inches H.	D.	W.	Net/ 100
1253*	.328	.335	.270	$3.10
1254*	.328	.396	.270	3.10
1255*	.328	.703	.270	3.80
1256	.437	.312	.312	3.40
1257	.405	.343	.312	3.75
1258	.405	.281	.312	5.40

Tab width, .205"; all others, .250".

WITH .250" TAB TERMINALS

Terminals have non-rotation tab base.

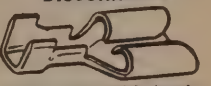
Board Sizes, Inches W. x L.	Term. Holes Spaced	No. Terms./ Side	No. 1256 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99	No. 1257 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99	No. 1258 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99
½ x 1½	Single	2	4101	$0.23	$0.21	4116	$0.23	$0.21	4131	$0.21	$0.21
½ x 2¼	Single	4	4102	.35	.33	4117	.41	.36	4132	.41	.36
½ x 3	Single	6	4103	.46	.41	4118	.55	.50	4133	.55	.50
½ x 3¾	Single	8	4104	.60	.55	4119	.63	.58	4134	.63	.58
½ x 4½	Single	10	4105	.69	.66	4120	.75	.71	4135	.75	.71
1½ x 1½	1"	2	4106	.43	.38	4121	.44	.39	4136	.44	.39
1½ x 2¼	1"	4	4107	.66	.63	4122	.69	.66	4137	.69	.66
1½ x 3	1"	6	4108	.84	.80	4123	.94	.85	4138	.94	.85
1½ x 3¾	1"	8	4109	1.06	.95	4124	1.18	1.08	4139	1.18	1.08
1½ x 4½	1"	10	4110	1.33	1.24	4125	1.46	1.34	4140	1.46	1.34
2 x 1½	1½"	2	4111	.45	.40	4126	.46	.41	4141	.46	.41
2 x 2¼	1½"	4	4112	.68	.65	4127	.71	.68	4142	.71	.68
2 x 3	1½"	6	4113	.85	.81	4128	.95	.86	4143	.95	.86
2 x 3¾	1½"	8	4114	1.08	1.03	4129	1.19	1.09	4144	1.19	1.09
2 x 4½	1½"	10	4115	1.35	1.26	4130	1.48	1.35	4145	1.48	1.35

WITH .203" TAB TERMINALS

erminals have 7/64" square, extruded base eyelet.

Board Size, Inches W. x L.	Term. Holes Spaced	No. Terms./ Side	No. 1253 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99	No. 1254 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99	No. 1255 Term. Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99	Backing Strip Keystone No.	Net Each, Lots of 1-19	Net Each, Lots of 20-99
½ x 1½	Single	2	4041	$0.16	$0.15	4056	$0.16	$0.15	4071	$0.16	$0.15	4401	$0.08	$0.07
½ x 2¼	Single	4	4042	.26	.25	4057	.26	.25	4072	.26	.25	4402	.08	.07
½ x 3	Single	6	4043	.34	.31	4058	.31	.29	4073	.34	.31	4403	.08	.07
½ x 3¾	Single	8	4044	.45	.40	4059	.44	.39	4074	.44	.39	4404	.08	.07
½ x 4½	Single	10	4045	.54	.49	4060	.53	.45	4075	.54	.49	4405	.08	.07
½ x 1½	1"	2	4046	.30	.28	4061	.34	.31	4076	.31	.29	4406	.08	.07
½ x 2¼	1"	4	4047	.53	.45	4062	.54	.49	4077	.54	.49	4407	.08	.07
½ x 3	1"	6	4048	.61	.56	4063	.63	.58	4078	.63	.58	4408	.08	.07
½ x 3¾	1"	8	4049	.71	.68	4064	.76	.73	4079	.76	.73	4409	.09	.08
½ x 4½	1"	10	4050	.81	.78	4065	.85	.81	4080	.85	.81	4410	.09	.08
x 1½	1½"	2	4051	.31	.29	4066	.34	.31	4081	.34	.31	4411	.08	.07
x 2¼	1½"	4	4052	.53	.45	4067	.54	.49	4082	.54	.49	4412	.08	.07
x 3	1½"	6	4053	.61	.56	4068	.64	.59	4083	.64	.59	4413	.08	.07
x 3¾	1½"	8	4054	.73	.69	4069	.78	.74	4084	.78	.74	4414	.09	.08
x 4½	1½"	10	4055	.83	.79	4070	.94	.85	4085	.94	.85	4415	.09	.08

FEMALE KWIK DISCONNECTS



Wire crimp with insulation support for above terminals. Wire range, #16–20.
Keystone No. 4469—Fits tab .016"–.030" th., .205" wide. Net/100.....**$2.95**
Keystone No. 4470—Fits tab .032" thick, .250" wide. Net/100.....**$3.40**

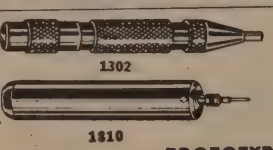
MOLDED VINYL PLASTIC BOOT

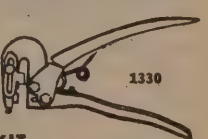
Slips over disconnects.
Keystone No. 4471 (Clear), **4472** (Red), **4473** (Blue), **4474** (Yellow)—Net/100.....**$2.50**



STAKING TOOL KITS

Stakes terminals, rivets and eyelets with ease and safety. Precision tool may be used with any drill press; adaptable for use on kick, arbor, punch or air presses. Or, use as a simple hand tool by driving with hammer. Contoured, heat-treated steel for long wear and professional performance. Kits are supplied with instructions.
Keystone No. 1721 Basic Staking Kit—For single end terminals, eyelets or rivets. Box includes one each of 1714, 1715, 1716, 1717 tools; 1719 tool holder. No. 1714 tool handles .062"–.098" shank dia.; 1715 tool, .110"–.125" shank dia.; 1716, anvil with .070" and .100" end holes; 1717, anvil with .128" and .152" end holes; 1719, holds ¼" dia. tools. Net Each Kit.....**$7.50**
Keystone No. 1713 Master Staking Kit—For single end, double end (feed-thru), fork terminals, extruded lugs, eyelets, rivets, etc. Consists of one each of 1714, 1715, 1716, 1717, 1719 plus additional 1304, 1305, 1306, 1307, 1315, 1316, 1321, 1324, 1325, 1326, 1722 and 1726 tools. No. 1304 tool has .051" dia. hole; 1305, .063" dia. tool; 1306, .073" dia. tool; 1307, .086" dia. tool; 1324, .098" dia. tool; 1315, .045" dia. pin, for 1/16" dia. eyelets; 1316, .068" dia. pin, for 3/32" eyelets or extruded lugs; 1321, spring; 1325, anvil for 6-32 thread bushings; 1326, anvil for 3/32" O.D. bushings; 1722, anvil with .053" and .065" end holes; 1726, anvil with .040" and .060" end slots for fork type terminals. Net Each Kit.....**$30.00**
Keystone No. 1707 Impact Staking Kit—For automatic, single-hand operation. Impact handle produces light or heavy blow, adjustable by turning of the spring tension cap. Uniform striking action attained by pressing down handle. Interchangeable tools permit assembly of terminal boards, printed circuits and small components. Consists of one each 1315, 1316, 1321, 1716, 1717, 1722, 1726 tools plus additional 1310, 1311, 1312, 1313 tools; 1301 anvil holder; and, 1302 impact handle. No. 1310, tool with .053" dia. hole; 1311, .062" dia. tool; 1312, tool for .040"–.072" shank dia.; 1313, tool for .078"–.093" shank dia.; 1301, base for ¼" dia. tools, with mounting holes for permanent assembly to bench, felt covered base to prevent marring; 1302, ½" dia. x 5" long impact handle, accepts 3-56 threaded tips. Net Each Kit.....**$29.00**





PROTOTYPE KIT

Ideal for 1/16" and 3/32" thick terminal boards for experimental or production runs. Saves costly tooling and set up charges.
Keystone No. 1723 Prototype Kit—Consists of 1/16" and 3/32" Bakelite‡, blank and pre-punched boards; hardware such as eyelets, terminals, brackets, bushings, push-in terminals; complete terminal staking tool kit; and instructions. Net Each Kit.....**$20.00**
‡Reg. Bakelite Corp. trademark.

TEST PROBE KITS

Precision molded, low cost, sturdy, easily assembled accessory for signal generators, VTVM, oscilloscopes etc. Designed to contain required circuitry for signal tracers, demodulators, rectifying and isolation probes. **Size:** Handle, 1" dia. x 5" long; probe, 1 3/16" long; terminal board, 1 1/16" w. x 4" lgth.; brass tube, 2 3/32" I.D. x 3" long.
Keystone No. 1810 Test Probe Kit—Consists of one each black hi-impact plastic handle, black phenolic cap, pre-punched terminal board, push-in type terminals, brass shield, senior solderless brass N.P., and screws for fastening cap to handle. Net Each Kit.....**$1.35**
Keystone No. 1811 Test Probe Kit—Same as 1810, but less terminal board, terminals and brass tube. Net Each Kit.**$1.15**

ALL-PURPOSE HAND PUNCH

For punching sharp, burr-free holes in a variety of materials to 1/16" thick untempered metal, 3/32" phenolic, ¼" Masonite or min. ¾" dia. tubing. Shears eyelets, leaving clear undamaged hole; or, use as nibbler.
Keystone No. 1330 Hand Punch—Equipped with adjustable gauge. Replaces innumerable drill press operations. Depth of throat, 1¼". Net Each (hand punch only).....**$28.70**

INDIVIDUAL DIE SETS

Consists of top and bottom tool.
Keystone No. 1331 (for 1/16" dia. hole), **1332** (.072" dia.), **1333** (3/32" dia.), **1334** (1/8" dia.), **1335** (5/32" dia.), **1336** (3/16" dia.), **1337** (7/32" dia.), **1338** (¼" dia.)—Net Each.....**$3.40**

KEYSTONE FUSE CLIPS, TRANSISTOR SOCKETS & SPACERS


3523


3526


3530


3529


3524


3535


3533

MOLDED FUSE MOUNTINGS FOR 3AG FUSES

A new, improved fuse holder for the popular 3AG fuse. Molded with barriers to prevent flashover; withstands application of 1080 Vrms, 60 Hz or 3000 VDC for one minute. UL approved materials. Low cost. Low contact resistance. Flame retardant. No. 3535 clips stamped from brass alloy, type CDA 260 and bright dip plated. Molded black plastic base is mineral filled, flame retardant Alkyd, UL rated 94V-0 and conforms to the 180-second arc tracking test spec per ASTM 495-D. Mountings available with any clips of your choice; price quotations on request.

Keystone No.	Description	Net Each, Lots of 1-19	20-99	100-249★
3523	Single fuse mounting	$0.42	$0.32	$0.30
3524	Double fuse mounting	.59	.53	.49

FUSE STRAP FOR 3AG FUSES

Base made of .062″ thick GPO-3. Tinned terminals and clips solidly riveted to base. Terminals located on bottom of base; ideal for use where space is a factor.

Keystone No. 3526 Fuse Strip—Net Each, 1-19.....**$0.39** 20-99.....**$0.33**; 100-249..... .27

STANDARD FUSE CLIPS FOR ¼″ DIA. FUSES

Rugged, inexpensive fuse clips, available in one-piece lug/clip combination with .140″ dia. mounting hole, or with .140″ tabs for PCB mounting. Low contact resistance. Stamped from .020″ thick brass. Lug/clip types are nickel plated. PCB types are hot tinned.

Keystone No.	Description	Net per 100	1000★
3529	Printed circuit fuse clip	$5.00	$37.75
3530	Printed circuit fuse clip	4.70	28.05
3533	Lug/clip combination	4.75	29.00
3535	Lug/clip combination	4.75	29.00

HEX MALE/FEMALE THREADED SPACERS (FIG. A)

Nickel plated brass spacers available in a variety of sizes. 8-32 spacers have ⅜″ internal and external threads. 6-32 spacers have ⅜″ internal and ¼″ external threads, 4-40 spacers have ¼″ internal and ⅜″ external threads.

Lgth. "L"	4-40 Thread Keystone No.	4-40 Thread Net Each★	6-32 Thread Keystone No.	6-32 Thread Net Each★	8-32 Thread Keystone No.	8-32 Thread Net Each★
½″	1944	$0.23	1952	$0.21	1957	$0.27
⅝″	1945	.24	1953	.24	1958	.27
¾″	1946	.25	1954	.25	1959	.28
1″	1947	.26	1644	.23	1960	.27
1¼″	1948	.27	1955	.27	1961	.29
1⅜″	1949	.24	1956	.29	1962	.30
1½″	1950	.30	1645	.24	1963	.32
2″	1951	.31	1646	.25	1964	.31

HEX ALUMINUM SPACERS (FIG. B)

Lightweight, non-magnetic. Iridite finish per MIL-C-5541.

Lgth. "L"	4-40 Thread Keystone No.	4-40 Thread Net per 100★	6-32 Thread Keystone No.	6-32 Thread Net per 100★	8-32 Thread Keystone No.	8-32 Thread Net per 100★
⅛″	2201	$ 7.75	2208	$ 8.15	2215	$ 8.15
⅜″	2202	9.30	2209	9.30	2216	9.30
½″	2203	11.55	2210	11.55	2217	11.55
¾″	2204	13.75	2211	13.75	2218	13.75
1″	2205	16.40	2212	16.40	2219	16.40
1½″	2206	20.20	2213	20.20	2220	20.20
2″	2207	22.15	2214	22.15	2221	22.15

★Larger quantity discounts available; information on request.


A

B


C


D


E


F


G


H


I

STANDARDIZED POWER TRANSISTOR SOCKETS

Low cost, compact sockets eliminate the necessity of soldering directly to the transistor pins. Mounting holes in collector plate threaded for easier, faster mounting with minimal hardware. Top plate of molded nylon per MIL-P-20693A or natural color, PBE grade phenolic. Base of natural color, PBE grade phenolic. Cadmium-plated steel collector plate. Cadmium-plated brass contacts, .012″ thick. No. 4600 has PC lugs; all others have solder lugs (standard); PC lugs available on request. A wide variety of sockets available for TO-3 and TO-66 cases.

SOCKETS FOR TO-3 CASES

PRINTED CIRCUIT TERMINALS (FIG. C)

Easily mounts on printed circuit board. Stops on terminals hold socket above PCB for easy insertion of transistor pins. Molded bosses permit mounting of heat sink without external bushings. Molded nylon top plate; phenolic base.

Keystone No. 4600 PC Transistor Socket—Net Ea., 1-19. **$0.29** 20-99.....**$0.27**; 100-249..... .24

SOLDER LUG TERMINALS

Sockets with nylon top plates have molded bosses for mounting transistors without additional bushings; all-phenolic units require external bushings. Diamond design units are mounted to chassis by transistor mounting screws. Rectangular units may be mounted to chassis with rivets or eyelets, permitting transistor to be mounted at a later stage in the assembly.

Keystone No.	Fig.	Boss Hgth.	Top Plate Color	Net Each, Lots of 1-19	20-99	100-249★
NYLON TOP PLATE—PHENOLIC BASE						
4601	D	.090″	Natural	$0.36	$0.34	$0.27
4602	D	.045″	Blue	.36	.34	.27
4603	D	.030″	Green	.36	.34	.27
4607	E	.030″	Black	.41	.37	.31
4608	E	.045″	Natural	.41	.37	.31
4609	E	.060″	Blue	.41	.37	.31
4610	E	.090″	Green	.41	.37	.31
4618	E	.125″	Red	.41	.37	.31
PHENOLIC TOP PLATE AND BASE						
4606	F	....	Natural	$0.34	$0.32	$0.25

SOCKETS FOR TO-66 CASES

Sockets with nylon top plates have molded bosses for mounting transistors without additional bushings; all-phenolic units require external bushings. Diamond design units are mounted to chassis by transistor mounting screws. Rectangular units may be mounted to chassis with rivets or eyelets, permitting transistor to be mounted at a later stage in the assembly.

Keystone No.	Fig.	Boss Hgth.	Top Plate Color	Net Each, Lots of 1-19	20-99	100-249★
NYLON TOP PLATE—PHENOLIC BASE						
4611	G	.030″	Black	$0.47	$10.43	$0.36
4612	G	.045″	Green	.47	.43	.36
4613	G	.060″	Natural	.47	.43	.36
4614	G	.090″	Red	.47	.43	.36
4625	H	.169″	Natural	.42	.40	.31
PHENOLIC TOP PLATE AND BASE						
4615	I	....	Natural	$0.56	$0.50	$0.40

SONALERT® ELECTRONIC SIGNALS



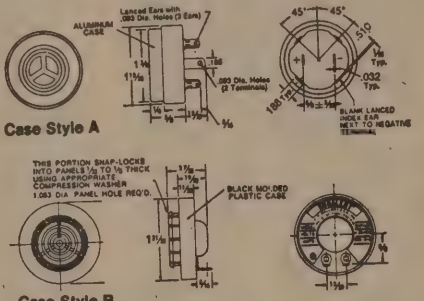




major advance in the audible signal arning devices. Produces a penetrating und of 1900, 2900, 3500 or 4500 Hz by ilizing the piezoelectric principle. All cir-itry is solid state for maximum efficiency, west current requirement and high re-ability. Silicon transistor oscillator drives ezoelectric transducer to produce the sired output tone. The physical charac-ristics of the transducer determines the tput frequency; and, this cannot be tered by external means. Output inten-ty is directly proportional to input volt-ge and ranges from 55 dB at min. to 95 dB at max. C. Draws only 28 mA max. (less than an indicator lamp), there are no mechanical points to arc and require maintenance, and there is no RF field generated. The Sonalert will operate in ambient temperatures from −30° C to +65° C; and, because of its solid state design, it is reliable, with a life expectancy of 10,000 hours. Used in computer systems in which stray RF could cause false readouts; in portable mine detectors in which ruggedness, minimum current and maximum reliability are prime considerations; also in aerospace projects requiring maximum efficiency and reliability. Sonalert is also used in volatile atmospheres where high density gas vapor could cause explosion. All have special silicon transistors and nylon case. Screw can be removed and solder or arkless quick-connect connections can be made. Max. panel thk. ¼". No detailed MIL spec but widely used in military and aerospace applications; ask for Bulletin 4-10-03 for additional details. For a 48-page booklet on Sonalert uses, request Mallory Form 9-406.

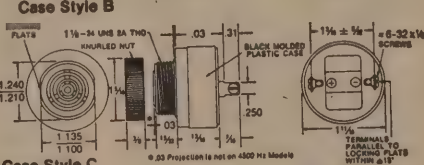
Mallory Number	Freq-Hz*	Operating Power#	Sound Intensity dB	Case Style	Net Each
CONTINUOUS TONE—DC ONLY					
SC1.5	3500	4 mA @ 1.5 V	60 @ 1.5 V	A	$ 6.33
SC6	3500	12 mA @ 6.0 V	70 @ 6.0 V	A	6.33
SC12	3500	14 mA @ 12 V	70 @ 12 V	A	6.33
SC18	3500	16 mA @ 18 V	70 @ 18 V	A	6.33
SC24	3500	16 mA @ 24 V	70 @ 24 V	A	6.33
SNP428	2900	2-14 mA @ 4-28 V	64-78	B	6.33
SNP428F	2900	.5-3 mA @ 4-28 V	55-70	B	6.33
SC616N	2900	4-16 mA @ 6-16 V	80-95	C	9.39
SC628	2900	3-14 mA @ 6-28 V	68-80	C	7.47
SC628D	1900	3-14 mA @ 6-28 V	60-75	C	8.12
SC628E	1900	3-8 mA @ 6-28 V	55-68	C	8.12
SC628F	2900	.5-3 mA @ 6-28 V	55-70	C	7.47
SC628H	4500	3-14 mA @ 6-28 V	68-80	C	8.12
SC628L	2900	3-14 mA @ 6-28 V	68-80	C-3	7.47
SC648	2900	3-14 mA @ 10-48 V	68-80	C	7.47
SC648D	1900	3-14 mA @ 10-48 V	60-75	C	8.12
SC648H	4500	3-14 mA @ 10-48 V	68-80	C	8.12
FAST PULSE—DC ONLY					
SC616NP	2900	4-16 mA @ 6-16 V	80-95	C	$10.74
SC616P	2900	1-4 mA @ 6-16 V	68-78	C-1	10.74
SC616P-1	2900	1-4 mA @ 6-16 V	68-78	C-2	10.74
SC628P§	2900	3-14 mA @ 6-28 V	68-80	D	12.14
SC628DP	1900	3-14 mA @ 6-28 V	60-75	D	12.14
SC628FP§	2900	3-14 mA @ 6-28 V	55-70	D	12.14
SC628HP	4500	3-14 mA @ 6-28 V	68-80	D	13.93
SLOW PULSE—DC ONLY					
SC616NJ	2900	4-16 mA @ 6-16 V	80-95	C	$10.74
SC616J	2900	1-4 mA @ 6-16 V	68-78	C-1	10.74
SC616J-1	2900	1-4 mA @ 6-16 V	68-78	C-2	10.74
SC628J§	2900	3-14 mA @ 6-28 V	68-80	D	12.14
SC628DJ	1900	3-14 mA @ 6-28 V	60-75	D	12.14
SC628EJ	1900	3-8 mA @ 6-28 V	55-68	D	12.14
SC628FJ§	2900	3-14 mA @ 6-28 V	55-70	D	12.14
SC628HJ	4500	3-14 mA @ 6-28 V	68-80	D	13.93
FAST WARBLE—DC ONLY					
SC628W	2900	3-16 mA @ 6-28 V	68-80	D-1	$12.14
SC628FW	2900	3-14 mA @ 6-28 V	55-70	D-1	12.14
SLOW WARBLE—DC ONLY					
SC628JW	2900	3-16 mA @ 6-28 V	68-80	D-1	$12.14
SC628FJW	2900	3-14 mA @ 6-28 V	55-70	D-1	12.14
REPEATING CHIME—DC ONLY					
SC616CP	2900	3-8 mA @ 6-16 V	68-80	D	$13.14
CONTINUOUS TONE—AC/DC					
SC628A	2900	4-16 mA @ 6-28 V	68-80	D	$10.74
SC110	2900	4-16 mA @ 30-120 V	68-80	D	10.74
SC110D	1900	4-16 mA @ 30-120 V	60-75	D	12.14
SC110E	1900	3-14 mA @ 30-120 V	55-65	D	12.14
SC110F	2900	1-4 mA @ 30-120 V	55-70	D	10.74
SC110H	4500	4-16 mA @ 30-120 V	68-80	D	13.93
SC110N	2900	8-28 mA @ 30-120 V	80-95	D	13.93
SC250	2900	4-16 mA @ 60-250 V	68-80	D	10.74
FAST PULSE—AC/DC					
SC628AP	2900	4-16 mA @ 6-28 V	68-80	E	$16.02
SC110P§	2900	4-16 mA @ 30-120 V	68-80	E	16.02
SC110DP	1900	4-16 mA @ 30-120 V	60-75	E	16.02
SC110EP	1900	3-14 mA @ 30-120 V	55-68	E	16.02
SC110FP§	2900	4-16 mA @ 30-120 V	55-70	E	16.02
SC110HP	4500	4-16 mA @ 30-120 V	68-80	E	16.02
SC110NP	2900	8-28 mA @ 30-120 V	80-95	E	16.02
SLOW PULSE‡—AC/DC					
SC628AJ	2900	4-16 mA @ 6-28 V	68-80	E	$16.02
SC110J§	2900	4-16 mA @ 30-120 V	68-80	E	16.02
SC110DJ	1900	4-16 mA @ 30-120 V	60-75	E	16.02
SC110EJ	1900	3-14 mA @ 30-120 V	55-68	E	16.02
SC110FJ§	2900	4-16 mA @ 30-120 V	55-70	E	16.02
SC110HJ	4500	4-16 mA @ 30-120 V	68-80	E	16.02
SC110NJ	2900	8-28 mA @ 30-120 V	80-95	E	16.02

*Tolerance, ± 500 Hz. #Ranges given are minimum and maximum. †Fast pulse models turn on and off at 2 to 9 Hz depending upon voltage at 50% duty cycle. ‡Slow pulse models turn on and off at 0.5 to 2 Hz depending upon voltage at 50% duty cycle. §Also available as a short pulse model; ask for details.

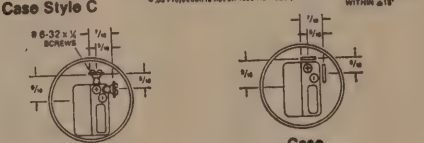


Case Style A

Case Style B

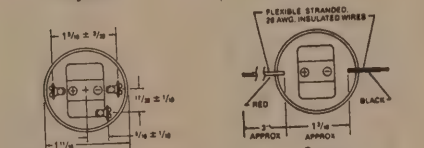


Case Style C



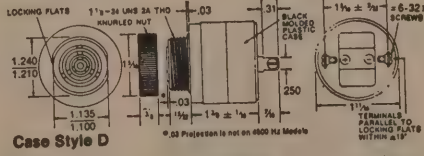
Case Style C-1

Case Style C-2

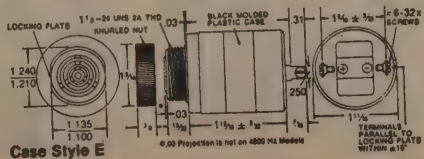


Case Style D-1

Case Style C-3



Case Style D



Case Style E

H. H. Smith Spacers

3/16" ROUND BRASS—CLEAR HOLE

Length, Ins.	H. H. Smith No. For #2 Screw	For #4 Screw	Net per C
.125	9000	9015	$ 5.71
.187	9001	9016	6.22
.250	9002	9017	7.03
.312	9003	9018	7.92
.375	9004	9019	8.43
.437	9005	9020	9.03
.500	9006	9021	9.43
.562	9007	9022	10.74
.625	9008	9023	11.24
.687	9009	9024	14.06
.750	9010	9025	14.55
.812	9011	9026	15.06
.875	9012	9027	16.36
.937	9013	9028	16.86
1.000	9014	9029	18.07

3/16" HEX BRASS—CLEAR HOLE

.125	9100	9115	$ 6.42
.187	9101	9116	6.82
.250	9102	9117	7.52
.312	9103	9118	8.93
.375	9104	9119	9.23
.437	9105	9120	9.53
.500	9106	9121	9.83
.562	9107	9122	10.83
.625	9108	9123	11.44
.687	9109	9124	14.25
.750	9110	9125	14.55
.812	9111	9126	15.76
.875	9112	9127	17.57
.937	9113	9128	19.08
1.000	9114	9129	20.08

1/4" ROUND BRASS—CLEAR HOLE

Length, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
.125	8700	8701	8702	$ 5.71
.187	8703	8704	8705	6.22
.250	2340	2100	2105	7.03
.312	8706	8707	8708	6.74
.375	2341	2101	2106	7.17
.437	8709	8710	8711	9.23
.500	2342	2102	2107	9.42
.562	8712	8713	8714	10.74
.625	8715	8716	8717	11.24
.687	8718	8719	8720	14.06
.750	2343	2103	2108	14.55
.812	8721	8722	8723	15.06
.875	8724	8725	8726	16.36
.937	8727	8728	8729	16.86
1.000	2344	2104	2109	18.67

1/4" HEX BRASS—CLEAR HOLE

.125	8790	8791	8792	$ 6.42
.187	8793	8794	8795	6.82
.250	2380	2300	2305	7.52
.312	8796	8797	8798	8.93
.375	2381	2301	2306	9.23
.437	8799	8800	8801	9.53
.500	2382	2302	2307	9.83
.562	8802	8803	8804	10.83
.625	8805	8806	8807	11.44
.687	8808	8809	8810	14.25
.750	2383	2303	2308	14.55
.812	8811	8812	8813	15.76
.875	8814	8815	8816	17.57
.937	8817	8818	8819	19.08
1.000	2384	2304	2309	20.08

3/8" ROUND BRASS—CLEAR HOLE

.125	8730	8731	8732	$10.24
.187	8733	8734	8735	11.94
.250	2345	2110	2115	12.54
.312	8736	8737	8738	13.45
.375	2346	2111	2116	15.96
.437	8739	8740	8741	16.96
.500	2347	2112	2117	17.37
.562	8742	8743	8744	21.88
.625	8745	8746	8747	20.78
.687	8748	8749	8750	23.39
.750	2348	2113	2118	20.68
.812	8751	8752	8753	24.20
.875	8754	8755	8756	27.51
.937	8757	8758	8759	28.31
1.000	2349	2114	2119	29.42

3/8" HEX BRASS—CLEAR HOLE

.125	8850	8851	8852	$10.64
.187	8853	8854	8855	11.94
.250	2385	2310	2315	12.84
.312	8856	8857	8858	14.85
.375	2386	2311	2316	16.26
.437	8859	8860	8861	19.87
.500	2387	2312	2317	20.58
.562	8862	8863	8864	21.58
.625	8865	8866	8867	23.79
.687	8868	8869	8870	24.20
.750	2388	2313	2318	25.20
.812	8871	8872	8873	26.51
.875	8874	8875	8876	29.62
.937	8877	8878	8879	30.02
1.000	2389	2314	2319	32.73

3/16" ROUND BRASS—TAPPED HOLE

Length, Ins.	H. H. Smith No. 2-56 Thd.	4-40 Thd.	Net per C
.125	9030	9045	$ 7.42
.187	9031	9046	7.72
.250	9032	9047	8.03
.312	9033	9048	8.53
.375	9034	9049	9.53
.437	9035	9050	10.14
.500	9036	9051	12.45
.562*	9037	9052	13.25
.625*	9038	9053	13.75
.687*	9039	9054	17.86
.750*	9040	9055	18.07
.812*	9041	9056	18.17
.875*	9042	9057	19.18
.937*	9043	9058	19.57
1.000*	9044	9059	21.09

3/16" HEX BRASS—TAPPED HOLE

.125	9130	9145	$ 7.52
.187	9131	9146	8.03
.250	9132	9147	8.73
.312	9133	9148	9.43
.375	9134	9149	10.64
.437	9135	9150	11.44
.500	9136	9151	12.45
.562*	9137	9152	14.55
.625*	9138	9153	17.37
.687*	9139	9154	18.37
.750*	9140	9155	19.38
.812*	9141	9156	20.08
.875*	9142	9157	20.38
.937*	9143	9158	21.38
1.000*	9144	9159	22.89

*Thread is tapped in 3/8" from each end, not continuous through.

1/4" ROUND BRASS—TAPPED HOLE

Length, Ins.	H. H. Smith No. 4-40 Thd.	6-32 Thd.	8-32 Thd.	Net per C
.125	8760	8761	8762	$ 7.42
.187	8763	8764	8765	7.72
.250	2370	2120	2125	8.03
.312	8766	8767	8768	8.53
.375	2371	2121	2126	9.53
.437	8769	8770	8771	10.14
.500	2372	2122	2127	12.45
.562	8772	8773	8774	13.25
.625	8775	8776	8777	13.75
.687	8778	8779	8780	17.86
.750	2373	2123	2128	18.07
.812	8781	8782	8783	18.17
.875	8784	8785	8786	19.18
.937	8787	8788	8789	19.57
1.000	2374	2124	2129	21.09

1/4" HEX BRASS—TAPPED HOLE

.125	8820	8821	8822	$ 7.52
.187	8823	8824	8825	8.03
.250	2330	2320	2325	8.73
.312	8826	8827	8828	9.43
.375	2331	2321	2326	10.64
.437	8829	8830	8831	11.44
.500	2332	2322	2327	12.45
.562	8832	8833	8834	14.55
.625	8835	8836	8837	17.37
.687	8838	8839	8840	18.37
.750	2333	2323	2328	19.38
.812	8841	8842	8843	20.08
.875	8844	8845	8846	20.38
.937	8847	8848	8849	21.38
1.000	2334	2324	2329	22.89

1/4" ROUND ALUMINUM—CLEAR HOLE

Length, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
.125	8480	8500	8520	$ 5.00
.187	9200	9207	9214	5.50
.250	8481	8501	8521	6.00
.312	9201	9208	9215	6.50
.375	8482	8502	8522	7.00
.437	9202	9209	9216	7.50
.500	8483	8503	8523	8.00
.562	9203	9210	9217	8.50
.625	8484	8504	8524	9.00
.687	9204	9211	9218	9.50
.750	8485	8505	8525	10.00
.812	9205	9212	9219	10.50
.875	8486	8506	8526	11.00
.937	9206	9213	9220	11.50
1.000	8487	8507	8527	12.00
1.250	8488	8508	8528	15.00
1.500	8489	8509	8529	16.00
1.750	8490	8510	8530	17.00
2.000	8491	8511	8531	18.00

1/4" HEX ALUMINUM—CLEAR HOLE

.125	8560	8580	8600	$6.00
.187	9256	9263	9270	6.50
.250	8561	8581	8601	7.00
.312	9257	9264	9271	7.50

1/4" HEX ALUMINUM—CLEAR HO

Length, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Ne per
.375	8562	8582	8602	$ 8.
.437	9258	9265	9272	8.
.500	8563	8583	8603	9.
.562	9259	9266	9273	9.
.625	8564	8584	8604	10.
.687	9260	9267	9274	10.
.750	8565	8585	8605	11.
.812	9261	9268	9275	11.
.875	8566	8586	8606	12.
.937	9262	9269	9276	12.
1.000	8567	8587	8607	13.

1/4" ROUND ALUMINUM—TAPPED HOLE

Length, Ins.	H. H. Smith No. 4-40 Thd.	6-32 Thd.	8-32 Thd.	Net per
.125	8320	8340	8360	$ 6.
.187	9228	9235	9242	6.
.250	8321	8341	8361	7.
.312	9229	9236	9243	7.
.375	8322	8342	8362	8.
.437	9230	9237	9244	8.
.500	8323	8343	8363	9.
.562	9231	9238	9245	9.
.625	8324	8344	8364	10.
.687	9232	9239	9246	10.
.750	8325	8345	8365	11.
.812	9233	9240	9247	11.
.875	8326	8346	8366	12.
.937	9234	9241	9248	12.
1.000	8327	8347	8367	14.
1.250	8328	8348	8368	16.
1.500	8329	8349	8369	17.
1.750	8330	8350	8370	18.
2.000	8331	8351	8371	19.

1/4" HEX ALUMINUM—TAPPED HO

.125	8400	8420	8440	$ 7.
.187	9284	9291	9298	7.
.250	8401	8421	8441	8.
.312	9285	9292	9299	8.
.375	8402	8422	8442	9.
.437	9286	9293	9300	9.
.500	8403	8423	8443	10.
.562	9287	9294	9301	10.
.625	8404	8424	8444	11.
.687	9288	9295	9302	11.
.750	8405	8425	8445	12.
.812	9289	9296	9303	12.
.875	8406	8426	8446	13.
.937	9290	9297	9304	13.
1.000	8407	8427	8447	14.

1/4" HEX STAINLESS STEEL—TAPPED HOLE

Length, Ins.	H. H. Smith No. 4-40 Thd.	6-32 Thd.	Net per C
.125	9060	9080	$29.12
.187	9061	9081	30.12
.250	9062	9082	31.13
.312	9063	9083	32.13
.375	9064	9084	33.14
.437	9065	9085	38.16
.500	9066	9086	43.18
.562*	9067	9087	46.19
.625*	9068	9088	49.21
.687*	9069	9089	52.22
.750*	9070	9090	54.23
.812*	9071	9091	55.23
.875*	9072	9092	56.24
.937*	9073	9093	57.24
1.000*	9074	9094	58.24

*Thread is tapped in 3/8" from each end, not continuous through.

3/16" O.D. ROUND NYLON—CLEAR HOLE

Molded nylon, Type 66, MIL Spec. 20693A

Length, Ins.	H. H. Smith No. For #2 Screw	For #4 Screw	Net per C
.125	9160	9180	$ 3.31
.187	9161	9181	3.80
.250	9162	9182	4.31
.312	9163	9183	4.91
.375	9164	9184	5.51
.437	9165	9185	6.02
.500	9166	9186	6.52
.562	9167	9187	7.03
.625	9168	9188	7.52
.687	9169	9189	8.03
.750	9170	9190	8.53
.812	9171	9191	8.83
.875	9172	9192	9.33
.937	9173	9193	9.73
1.000	9174	9194	10.04

SPACER LISTING CONTINUED ON NEXT PAGE

H. H. Smith Spacers and Standoffs

SPACERS (CONTINUED)

1/4" O.D. ROUND NYLON—CLEAR HOLE

Lgth, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
5/16	4000	4001	4002	$ 3.31
3/8	4003	4004	4005	3.80
1/2	4006	4007	4008	4.31
5/8	4009	4010	4011	4.91
3/4	4012	4013	4014	5.51
7/8	4015	4016	4017	6.02
1	4018	4019	4020	6.82
1 1/8	4021	4022	4023	7.03
1 1/4	4024	4025	4026	7.52
1 3/8	4027	4028	4029	8.03
1 1/2	4030	4031	4032	8.53
1 5/8	4033	4034	4035	8.83
1 3/4	4036	4037	4038	9.33
1 7/8	4039	4040	4041	9.73
2	4042	4043	4044	10.04

1/4" O.D. ROUND NYLON—TAPPED HOLE

Lgth, Ins.	H. H. Smith No. 4-40 Thd.	6-32 Thd.	8-32 Thd.	Net per C
1/4	4050	4051	4052	$11.28
1/2	4053	4054	4055	13.55
1	4056	4057	4058	15.06
1 1/4*	4059	4060	4061	15.81
1*	4062	4063	4064	16.07

1/4" O.D. ROUND PHENOLIC—TAPPED HOLE

Natural color PBE Grade MIL-P-79A.

250	8660	8661	8662	$11.04
312	8663	8664	8665	12.05
375	8666	8667	8668	13.05
437	8669	8670	8671	14.06
500	8672	8673	8674	15.06
562	8675	8676	8677	16.06
625	8678	8679	8680	17.07
687	8681	8682	8683	18.07
750*	8684	8685	8686	19.08
812*	8687	8688	8689	20.08
875*	8690	8691	8692	21.09
937*	8693	8694	8695	22.09
000*	8696	8697	8698	23.09

Thread is tapped in 3/8" from each end, not continuous through.

1/4" O.D. ROUND PLASTIC—CLEAR HOLE

Polyvinyl dichloride (PVDC) in gray finish. Self-extinguishing and temperature resistant.

Length, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
1/8	4154	4155	4156	$4.01
3/16	4157	4158	4159	4.51
1/2	4160	4161	4162	4.76
5/8	4163	4164	4165	5.02
3/4	4166	4167	4168	5.51
1	4169	4170	4171	6.02

HEX PLASTIC CLEAR HOLE

Length, Ins.	H. H. Smith No. O.D. 3/16" For #4 Screw*	O.D. 1/4" For #6 Screw*	O.D. 3/8" For #8 Screw*	Net per C
1/8	4178	.....	.....	$4.01
1/2	4179	4180	.....	4.51
5/8	4181	4182	4183	7.03
3/4	4184	4185	4186	7.52
7/8	4187	4188	4189	8.03
1	4190	4191	4192	9.03

*Self-tapping screw.

FIBRE SPACERS CLEAR HOLE

Made of fibre per MIL-F-1148A, Grade CH.

Length, Ins.	H. H. Smith No. For #4 Screw	For #6 Screw	For #8 Screw	Net per C
.125	8880	8881	8882	$ 6.12
.187	8883	8884	8885	6.52
.250	2335	2130	2140	7.52
.312	8886	8887	8888	8.53
.375	2336	2131	2141	9.53
.437	8889	8890	8891	10.54
.500	2337	2132	2142	12.05
.562	8892	8893	8894	13.05
.625	8895	8896	8897	14.06
.687	8898	8899	8900	15.06
.750	2338	2133	2143	16.06
.812	8901	8902	8903	17.57
.875	8904	8905	8906	18.57
.937	8907	8908	8909	20.08
1.000	2339	2134	2144	21.09

MALE/FEMALE THREADED SPACERS



1/4" O.D. ROUND

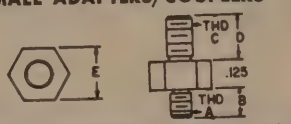
Length, Ins.	H. H. Smith No. 4-40 Thd.*	6-32 Thd.‡	8-32 Thd.^	Net per C
.250	8200	8232	8264	$22.89
.375	8201	8233	8265	23.29
.500	8202	8234	8266	23.79
.625	8203	8235	8267	24.30
.750	8204	8236	8268	24.80
.875	8205	8237	8269	25.30
1.000	8206	8238	8270	26.00
1.125	8207	8239	8271	26.51
1.250	8208	8240	8272	27.71
1.375	8209	8241	8273	29.32
1.500	8210	8242	8274	30.42
1.625	8211	8243	8275	31.13
1.750	8212	8244	8276	31.73
2.000	8213	8245	8277	32.53
2.500	8214	8246	8278	34.03
3.000	8215	8247	8279	36.95

1/4" O.D. HEX

.250	8216	8248	8280	$22.89
.375	8217	8249	8281	23.29
.500	8218	8250	8282	23.79
.625	8219	8251	8283	24.30
.750	8220	8252	8284	24.80
.875	8221	8253	8285	25.30
1.000	8222	8254	8286	26.00
1.125	8223	8255	8287	26.51
1.250	8224	8256	8288	27.71
1.375	8225	8257	8289	29.32
1.500	8226	8258	8290	30.42
1.625	8227	8259	8291	31.13
1.750	8228	8260	8292	31.73
2.000	8229	8261	8293	32.53
2.500	8230	8262	8294	34.03
3.000	8231	8263	8295	36.95

*Male thread, 3/16"; female thread, 1/4" d.
‡Male thread, 1/4"0 female thread, 3/8" d.
^Male thread, 3/8"; female thread, 7/16" d.

MALE ADAPTERS/COUPLERS



Convert female threaded spacers to male-female or splice spacers together for added length. Adds 1/8" to length of spacer.

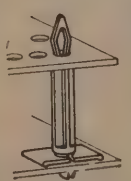
1/4" HEX BODY

H.H.S. No.	Dimensions, Inches Thd. A	Lth. B	Thd. C	Lth. D	Net per C
8300	4-40	3/16	4-40	3/16	$21.38
8301	4-40	3/16	6-32	1/4	23.69
8302	6-32	1/4	6-32	1/4	24.60
8303	6-32	1/4	8-32	3/8	25.10
8304	8-32	3/8	8-32	3/8	26.11
8305	8-32	3/8	10-32	3/8	27.11

5/16" HEX BODY

8306	8-32	3/8	10-32	3/8	$29.22
8307	10-32	3/8	10-32	3/8	30.72

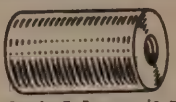
PRINTED CIRCUIT BOARD SUPPORTS



Made of nylon and snap into holes in board and chassis. Chassis hole should be .187" diam. and from .034" to .080" thick. Board hole should be .156" diam. and 1/16" thick.

H.H.S. No.	Length, Inches	Net Each
4093	3/16	$ 4.57
4094	1/4	4.88
4095	5/8	5.22
4096	1/2	5.87
4097	5/8	6.53
4098	3/4	7.17
4099	7/8	7.83
4293*	3/16	6.53
4294*	1/4	7.17
4295*	5/8	7.83
4296*	1/2	9.14
4297*	5/8	9.78
4298*	3/4	10.44
4299*	7/8	11.74

*Self-extinguishing nylon.



CERAMIC STANDOFFS

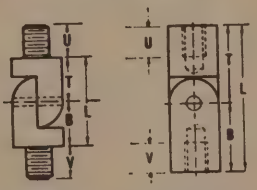
Grade L-5 ceramic with glazed outside. MIL types are made to MIL 1-10 specifications.

H.H.S. No.	MIL No. NL523W-	Lgth. Ins.	Thd. Depth Ins.	Net per C
3/8" ROUND, 6-32 THREAD				
2600	01-004	.500	5/32	$37.00
2601	01-005	.625	3/16	38.00
2602	01-006	.750	1/4	39.00
2603	01-008	1.000	1/8	41.00
2604	01-010	1.250	1/8	45.00
2605	01-012	1.500	1/8	47.00
2606	01-016	2.000	1/8	52.00
1/2" ROUND, 8-32 THREAD				
2607	02-005	.625	3/16	$39.00
2608	02-006	.750	1/4	41.00
2609	02-008	1.000	1/4	45.00
2610	02-010	1.250	1/8	47.00
2611	02-012	1.500	1/8	50.00
2612	02-016	2.000	1/8	56.00
2613	02-020	2.500	1/8	63.00
2614	02-024	3.000	1/8	69.00
3/4" ROUND, 10-32 THREAD				
2615	03-008	1.000	1/8	$ 82.00
2616	03-010	1.250	1/8	87.00
2617	03-012	1.500	1/8	100.00
2618	03-016	2.000	1/8	103.00
2619	03-020	2.500	1/8	116.00
2620	03-024	3.000	1/8	129.00
2621	03-032	4.000	1/8	140.00
1" ROUND, 1/4-20 THREAD				
2622	04-010	1.250	7/16	$116.00
2623	04-012	1.500	1/2	124.00
2624	04-016	2.000	5/8	145.00
2625	04-020	2.500	5/8	161.00
2626	04-024	3.000	5/8	174.00
2627	04-032	4.000	5/8	190.00
2628	04-040	5.000	5/8	206.00
2629	04-048	6.000	3/4	224.00

COMMERCIAL TYPES

H.H.S. No.	Length, Ins.	Diam., Ins.	Thd. Depth, Ins.	Net per C
6-32 THREAD				
2640	1/8	1/4	Thru	$31.00
2641	1/2	1/4	5/32	32.00
2642	5/8	3/8	5/32	34.00
2643	1/2	3/8	3/16	36.00
2644	1/2	1/2	9/64	37.00
2645	3/4	1/2	1/4	39.00
2646	1	1/2	3/8	41.00
2647	1 1/2	1/2	3/16	48.00
2648	2 1/2	1/2	1/2	82.00
1/4-20 THREAD				
2649	2 1/2	3/4	3/4	$147.00
2650	4	3/4	3/4	171.00

SWIVEL STANDOFFS



Tin-plated brass swivel standoffs for use with printed-circuit boards. Special sizes are available on request; contact factory.

H.H.S. No.	Thd.	Dimensions, Ins. T	U	B	V	L	Net per C
FEMALE INTERNAL THREAD							
3021	4-40	.375	.172	.375	.172	3/4	$34.14
3022	4-40	.375	.172	.625	.250	1	34.14
3023	6-32	.375	.172	.375	.172	3/4	36.15
3024	6-32	.375	.172	.625	.250	1	37.15
3025	8-32	.375	.172	.375	.172	3/4	35.15
3026	8-32	.375	.172	.625	.250	1	36.15
MALE EXTERNAL THREAD							
3027	4-40	.250	.250	.250	.250	1/2	$30.12
3028	6-32	.250	.312	.250	.312	1/2	35.15
3029	8-32	.250	.312	.250	.312	1/2	34.14

3/16" O.D.; others 1/4" O.D.

H. H. Smith Standoffs and Insulators

THREADED SWAGE STANDOFFS



Nickel-plated brass.

Round H.H.S. No.	Round Net per C	Dimensions, Inches X	L	S	C	Hex H.H.S. No.	Hex Net per C
2-56 THREAD FOR 3/64" THICK PANELS							
4369	$12.64	.094	.125	.138	.113	4269	$13.15
4370	12.84	.094	.187	.138	.113	4270	13.35
4371	12.94	.094	.250	.138	.113	4271	13.45
4-40 THREAD FOR 3/64" THICK PANELS							
4354	$12.64	.094	.125	.138	.113	4254	$13.15
4358	12.84	.094	.187	.138	.113	4258	13.35
4362	12.94	.094	.250	.138	.113	4262	13.45
4-40 THREAD FOR 1/16" THICK PANELS							
4355	$12.64	.105	.125	.138	.113	4255	$13.15
4359	12.84	.105	.187	.138	.113	4259	13.35
4100	12.94	.105	.250	.187	.156	4200	13.45
4103	14.06	.105	.375	.187	.156	4203	14.55
4106	17.07	.105	.500	.187	.156	4206	17.57
4109	17.96	.105	.625	.187	.156	4209	18.47
4112	20.88	.105	.750	.187	.156	4212	21.38
4115	24.40	.105	1.000*	.187	.156	4215	24.90
4-40 THREAD FOR 3/32" THICK PANELS							
4356	$12.64	.135	.125	.138	.113	4256	$13.15
4360	12.84	.135	.187	.138	.113	4260	13.35
4101	12.94	.135	.250	.187	.156	4201	13.45
4104	14.06	.135	.375	.187	.156	4204	14.55
4107	17.07	.135	.500	.187	.156	4207	17.57
4110	17.96	.135	.625	.187	.156	4210	18.47
4113	20.88	.135	.750	.187	.156	4213	21.38
4116	24.40	.135	1.000*	.187	.156	4216	24.90
4-40 THREAD FOR 1/8" THICK PANELS							
4357	$12.64	.165	.125	.138	.113	4257	$13.15
4361	12.84	.165	.187	.138	.113	4261	13.35
4102	12.94	.165	.250	.187	.156	4202	13.45
4105	14.06	.165	.375	.187	.156	4205	14.55
4108	17.07	.165	.500	.187	.156	4208	17.57
4111	17.96	.165	.625	.187	.156	4211	18.47
4114	20.88	.165	.750	.187	.156	4214	21.38
4117	24.40	.165	1.000*	.187	.156	4217	24.90
6-32 THREAD FOR 1/16" THICK PANELS							
4363	$13.25	.105	.125	.138	.113	4263	$13.75
4366	13.55	.105	.187	.138	.113	4266	14.06
4118	13.85	.105	.250	.187	.156	4218	14.35
4121	14.55	.105	.375	.187	.156	4221	15.06
4124	16.16	.105	.500	.187	.156	4224	16.66
4127	16.86	.105	.625	.187	.156	4227	17.37
4130	20.48	.105	.750	.187	.156	4230	20.98
4133	22.69	.105	1.000*	.187	.156	4233	23.19
6-32 THREAD FOR 3/32" THICK PANELS							
4364	$13.25	.135	.125	.138	.113	4264	$13.75
4367	13.55	.135	.187	.138	.113	4267	14.06
4119	13.85	.135	.250	.187	.156	4219	14.35
4122	14.55	.135	.375	.187	.156	4222	15.06
4125	16.16	.135	.500	.187	.156	4225	16.66
4128	16.86	.135	.625	.187	.156	4228	17.37
4131	20.48	.135	.750	.187	.156	4231	20.98
4134	22.69	.135	1.000*	.187	.156	4234	23.19
6-32 THREAD FOR 1/8" THICK PANELS							
4365	$13.25	.165	.125	.138	.113	4265	$13.75
4368	13.55	.165	.187	.138	.113	4268	14.06
4120	13.85	.165	.250	.187	.156	4220	14.35
4123	14.55	.165	.375	.187	.156	4223	15.06
4126	16.16	.165	.500	.187	.156	4226	16.66
4129	16.86	.165	.625	.187	.156	4229	17.37
4132	20.48	.165	.750	.187	.156	4232	20.98
4135	22.69	.165	1.000*	.187	.156	4235	23.19
8-32 THREAD FOR 1/16" THICK PANELS							
4136	$13.85	.105	.250	.187	.156	4236	$14.35
4139	14.55	.105	.375	.187	.156	4239	15.06
4142	16.16	.105	.500	.187	.156	4242	16.66
4145	16.86	.105	.625	.187	.156	4245	17.37
4148	20.48	.105	.750	.187	.156	4248	20.98
4151	22.69	.105	1.000▲	.187	.156	4251	23.19
8-32 THREAD FOR 3/32" THICK PANELS							
4137	$13.85	.135	.250	.187	.156	4237	$14.35
4140	14.55	.135	.375	.187	.156	4240	15.06
4143	16.16	.135	.500	.187	.156	4243	16.66
4146	16.86	.135	.625	.187	.156	4246	17.37
4149	20.48	.135	.750	.187	.156	4249	20.98
4152	22.69	.135	1.000▲	.187	.156	4252	23.19

*Thread is ½" from each end; not continuous thru. ▲Thread is full length but does not clear counterbore.

STEATITE AND PORCELAIN INSULATORS

STEATITE THRU-PANEL BUSHINGS

Consists of a pair of identical insulators supplied with cushion washers and hardware. No. 9555 has interlocking insulators which are self-centering in mounting hole and may be used on very thin panels.



H.H.S. No.	Dimensions, Inches A	B	D	E	H	M	Hdwre.	Net Each
9555	½	¾	1 5/32	.....	¼	.....	6-32	$0.6
9550	⅜	¾	1 5/32	.....	½	.....	6-32	.8
9551	⅝	1¼	2 7/32	.....	1 3/16	.....	10-32	1.3
9552	⅞	1¾	1 7/32	.....	1 1/16	.....	¼-20	1.9

THRU-PANEL INSULATORS

Compression mounted by means of stud throughout entire length of unit. Insulator base extends thru mounting hole to increase the breakdown rating. Supplied with cushion washers. Types with jacks have terminal permitting connection above as well as below panel.



STEATITE								
9544	3/8	5/8	5/16	5/16	5/8	.....	6-32	$1.0
9542	½	¾	1 3/32	3/8	⅞	.....	10-32	1.1
9540	1 3/32	1 5/16	7/16	½	1¼	.....	10-32	1.4
9543	No. 9542 with standard banana jack							1.3
9541	No. 9540 with standard banana jack							1.5
PORCELAIN								
9545	⅝	1¼	½	1 1/16	1⅜	.....	10-32	$1.7
9548	¾	1⅝	1 1/16	⅞	2	.....	10-32	2.2
9546	1 5/16	1⅝	1 1/16	1	2¾	.....	¼-20	3.6
9547	1 1/16	2⅛	3 1/32	1½	4½	.....	¼-20	4.9
9557	No. 9545 with standard banana jack							1.7
9558	No. 9548 with standard banana jack							2.4
9556	No. 9546 with giant banana jack							3.6

STEATITE CONE INSULATORS

Constructed of grade L-423 or better steatite, with threaded holes. Supplied with nickel-plated machine screws, nickel-plated brass washers and a cork cushion washer.



9500	7/16	5/8	.....	.....	2 1/32	.....	6-32	$1.1
9501	½	¾	.....	.....	1 1/32	.....	8-32	1.7
9502	½	1	.....	.....	1 7/16	.....	8-32	1.9
9503	⅝	1⅛	.....	.....	2 1/16	.....	10-32	3.9
9504	¾	1½	.....	.....	3 1/16	.....	10-32	9.2

STEATITE STAND-OFF INSULATORS

Two-hole mounting permits substational lateral loads. Supplied with screw, flat washer and two nuts.



9524	1⅜	1	.....	.....	⅝	1 1/16	6-32	$0.4
9522	1 3/32	1 5/32	.....	.....	1	1 3/16	8-32	.6
9520	¾	1¼	.....	.....	1 5/16	1 5/16	10-32	.9
9523	No. 9522 with standard banana jack							.8
9521	No. 9520 with standard banana jack							1.3

PORCELAIN STAND-OFF INSULATORS

Square mounting base with four mounting holes. Porcelain is dense molded and glazed except on mounting surfaces.



WITHOUT BASE								
9562	⅞	1⅞	.....	.....	2¼	1⅜	¼-20	$2.3
9560	1 5/16	2½	.....	.....	4½	1¼	¼-20	3.3
WITH ALUMINUM BASE								
9565	⅝	1⅞	.....	.....	1⅜	1½	10-32	$3.3
9568	2 3/32	1¾	.....	.....	2	1⅜	10-32	4.3
9566	1	1¾	.....	.....	2¼	1⅜	¼-20	4.9
9567	1 1/16	2¼	.....	.....	4½	1¾	¼-20	5.2

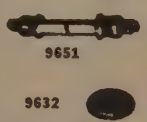
PORCELAIN LEAD-IN BUSHINGS

Single porcelain insulators less all hardware and mounting flange except cushion washer.



9553	1 1/16	2½	.....	.....	1¾	.....	.....	$2.2
9554	1	3½	.....	.....	4	.....	.....	3.9
9590	Mounting flange for No. 9553							4.6
9591	Mounting flange for No. 9554							5.2

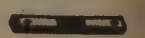
PORCELAIN ANTENNA STRAIN INSULATORS



H.H.S. No.	Breaking Strength	Length, Inches	Net Each
9632	.....	1½	$ 0.40
9604	400 lbs.	4	6.52
9607	800 lbs.	7	10.66
9612	800 lbs.	12	15.38
9651	5000 lbs.	15½	49.71
9652	5000 lbs.	19½	65.10
9653	5000 lbs.	25½	78.13

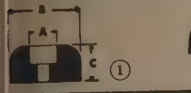
PORCELAIN FEEDER INSULATORS

H.H.S. No.	Length, Inches	Net Each
9622	2	$0.32
9624	4	.64
9626	6	.80



H. H. Smith GROMMETS, BUMPERS AND WASHERS

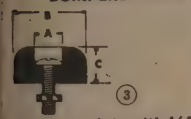
RECESS RUBBER BUMPERS



H.H.S. No.	Fig.	Dimensions, In. A	B	C	Net per C
.92	1	¼	½	¼	$ 3.62
.93	1	¼	5/8	5/16	6.03
.94	1	5/32	¾	3/8	7.23
184	1	5/32	5/8	5/32	7.23
155	1	¼	17/32	¼	4.82
156	1	5/16	5/8	5/8	7.23
157	1	¼	1 1/16	1 3/32	9.64
158	1	7/32	2 3/32	1 7/32	12.05
159	1	⅜	¾	1 7/64	7.83
160	1	⅜	2 5/32	5/16	9.03
161	1	¼	1	1	21.69
1135*	2	⅜	1 31/32	⅜	7.23
1162*	2	¼	1 7/32	¼	8.44
1163*	2	¼	1 1/16	1 3/32	14.46
1164*	2	¼	¾	1 7/64	10.84
1165*	2	⅜	2 5/32	5/16	15.66

*With molded-in metal washer.

BUMPERS WITH SCREW



*Supplied complete with ½" mounting screw and hex nut for panels up to ¼" thick. Specify longer screw for thicker panels.

H.H.S. No.	Fig.	Dim., Inches A	B	C	Screw	Net per C
2196	3	7/32	17/32	¼	6-32	$ 9.64
2197	3	¼	5/8	5/16	6-32	12.05
2198	3	9/32	¾	⅜	6-32	7.65
2199	3	¼	5/8	9/32	6-32	14.46
2466	3	¼	17/32	¼	4-40	12.05
2467	3	5/16	5/8	5/8	8-32	14.46
2468	3	¼	1 1/16	1 3/32	4-40	16.88
2469	3	7/32	2 3/32	1 7/32	2-56	19.28
2470	3	¼	¾	1 7/64	4-40	15.66
2471	3	⅜	1 5/32	5/16	8-32	16.88
2472	3	¼	1	1	4-40	28.92
2195*	4	⅜	1 31/32	⅜	8-32	14.46
2473*	4	¼	1 7/32	¼	4-40	15.66
2474*	4	¼	1 1/16	1 3/32	4-40	21.69
2475*	4	¼	¾	1 7/64	4-40	18.08
2476*	4	⅜	2 5/32	5/16	8-32	22.90

*With molded-in metal washer.

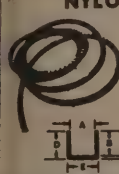
VINYL CABINET BUMPERS



All molded cabinet bumpers with brass insert to absorb screw load. Molded of ethylene vinyl. Black.

H.H.S. No.	For Screw	Dimensions A	B	Net per C
BLACK				
2181	No. 4	3/8"	5/16"	$ 7.71
2182	No. 6	7/16"	¼"	11.03
2183	No. 8	5/8"	13/16"	14.24
GRAY				
2178	No. 6	¼"	11/16"	$ 6.67
2179	No. 8	5/16"	⅜"	11.03
2180	No. 10	7/16"	1 1/16"	14.35

EXTRUDED "CATERPILLAR" NYLON GROMMETS



Shape your own grommets to fit any size or shape opening. Made of non-conductive black nylon, Type 6/6, fungus resistant to conform to MIL-M-20693a, Type 1. For panel thickness from .052" to .125". 25-foot rolls.

H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net/ Roll
2692	.052	.150	.040	.190	.125	$11.83
2693	.085	.155	.045	.200	.162	13.61
2694	.125	.175	.045	.220	.206	14.19

RUBBER GROMMETS



H.H.S. No.	Dimensions, Inches A	B	C	D	E	Net per C
91114	1 1/32	⅛	¼	3/16	1/16	$ 3.00
91118	7/16	3/16	5/16	7/32	1/16	3.00
91103	3/16	3/16	1 5/32	⅜	⅛	4.82
91122	1/2	¼	1 1/32	5/32	1/32	3.74
91102	¼	9/32	1 3/32	⅜	5/32	4.82
91117	1 9/32	3/16	7/16	⅜	⅛	4.82
91116	¾	3/16	½	⅜	⅛	7.23
91106	¾	7/16	½	½	3/16	9.64
91119	9/16	¼	1 3/32	7/16	1/16	3.24
91123	1 1/16	9/32	½	7/16	¼	8.44
91120	5/8	1 3/64	7/16	¼	1/16	3.74
91107	5/8	3/8	7/16	5/16	5/32	7.23
91121	2 1/32	3/8	½	¼	1/16	3.62
91100	1 3/16	3/8	½	1 3/32	9/64	13.25
91124	¾	7/16	9/16	¼	1/16	4.22
91111	7/8–1	3/8	1 1/16	1 3/32	9/64	13.25
91109	1 1/16	3/8	7/8	3/8	¼	19.28
91112	1 5/8	49/64	1 3/32	5/16	1/16	21.69

RUBBER GROMMETS

2185	5/16	1/8	3/16	3/16	1/16	$ 3.12
2172	7/16	3/16	3/16	3/16	1/16	2.88
2170	5/8	1/4	3/8	1/4	1/16	3.36
2174	5/8	5/16	1/4	1/4	1/16	3.14
2175	2 1/32	3/8	1/2	1/4	1/16	3.38
2177	3/4	7/16	9/16	1/4	1/16	3.38
2186	1 1/16	1/2	3/4	5/16	1/16	7.23
2188	1 1/16	9/16	1 3/16	5/16	1/16	10.84
2187	1 1/8	5/8	7/8	5/16	1/16	7.23
2189	1	3/4	7/8	5/32	1/32	7.23

VINYL GROMMETS

Exceptional aging qualities, high dielectric properties. Oil resistant. Durameter hardness, 45 to 85.

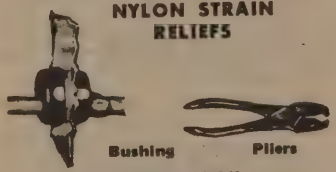
2145	1 1/32	1/8	1/4	3/16	1/16	$2.04
2146	7/16	3/16	5/16	7/32	1/16	2.40
2147	5/16	1/4	3/8	1/4	1/16	2.64
2148	3/4	3/8	1/2	1/4	1/16	3.00
2149	1 3/16	1/2	5/8	9/32	1/16	4.82

SNAP-IN RUBBER CHASSIS BUMPERS

Require no chassis hardware, simply push into chassis hole.

H.H.S. No.	Fig.	Dimens., Inches A	B	C	D	Net per C
2450	1	5/32	5/16	15/64	3/64	$4.82
2451	2	13/64	3/8	3/16	3/64	5.18
2452	3	1/4	3/8	9/64	1/16	5.42
2453	4	1/4	1/2	3/16	1/16	5.78
2454	5	1/4	5/16	5/16	3/32	6.03

NYLON STRAIN RELIEFS



Bushing Pliers

STRAIGHT THRU

One-piece construction, absorbs pull and twist. Wire full anchored and insulated at chassis entrance. Available as straight thru or right angle. Standard package of 100.

H.H.S. No.	Wire Size	Dim., Inches* A	B	C	Net per C
937	1/8"–3/16"	.375	.410	.060	$4.82
938	.125" x .22"	.437	.410	.062	4.82
939	.250"–.290"	.500	.438	.100	6.09
822	.12"–.30"	.500	.406	.062	7.23
823	.365"–.360"	.625	.580	.062	11.44

RIGHT ANGLE

824	.12"–.30"	.500	.687	.100	$10.24
825	.250"–.290"	.500	.687	.100	10.24
826	.360"–.430"	.750	1.085	.125	22.90

*A, chassis hole; B, length; C, maximum chassis thickness.

H. H. Smith No. 940 Setting Pliers—For above. Net Each..... **$41.43**

FLAT WASHERS



H.H.S. No.	Screw Clear.	Dim., Inches I.D.	O.D.	Tck.	Net per C	Net per M
FIBRE						
2191	#2	.093	.250	1/32	$0.98	$ 7.74
2161	#4	.115	.250	1/16	1.10	8.84
2160	#6	.141	.250	1/16	1.10	8.84
2162	#6	.141	.375	1/16	1.10	8.84
2163	#8	.169	.375	1/16	1.32	9.94
2164	#10	.196	.375	1/16	1.32	9.94
2165	¼"	.253	.500	1/16	1.32	9.94
2166	¼"	.253	.500	3/32	2.20	16.57
2167	5/16"	.315	.500	1/16	1.54	12.15
2168	⅜"	.385	.625	1/16	1.54	12.15
2169	⅜"	.378	.750	1/16	2.42	18.78
NYLON						
2652	#2	.093	.250	1/32	$1.32	$ 9.94
2671	#4	.115	.250	1/16	1.43	11.05
2514	#4	.115	.281	3/64	1.43	11.05
2670	#6	.141	.250	1/16	1.43	11.05
2515	#6	.141	.312	3/64	1.43	11.05
2672	#6	.141	.375	1/16	1.76	13.26
2673	#8	.170	.375	1/16	1.76	13.26
2516	#8	.170	.375	1/16	1.76	13.26
2674	#10	.196	.375	1/16	1.76	13.26
2517	#10	.196	.437	1/16	2.20	16.57
2675	¼"	.253	.500	1/16	2.53	19.88
2676	¼"	.253	.500	3/32	3.98	30.94
2518	¼"	.253	.562	1/16	3.19	24.30
2677	5/16"	.315	.500	1/16	2.53	19.88
2678	⅜"	.385	.625	1/16	2.47	23.20
2679	⅜"	.378	.750	1/16	4.75	36.46

SHOULDERED WASHERS



H.H.S. No.	Screw Clear.	Dim., Ins. O.D.	Shdlr. Dia.	Net per C	Net per M
FIBRE					
2171	#2	.250	.154	$2.20	$18.78
2151	#4	.250	.187	1.76	13.26
2152	#6	.250	.187	1.76	13.26
2153	#6	.312	.187	1.87	14.36
2150	#6	.375	.240	1.87	14.36
2155	#8	.375	.246	1.87	14.36
2156	#10	.375	.308	1.98	15.47
2154	¼"	.500	.308	1.98	15.47
2159	17/64"	.500	.365	2.75	20.99
2158	⅜"	.625	.498	2.97	23.26
2157	⅜"	.750	.498	3.43	26.57
NYLON					
2651	#2	.250	.154	$2.75	$20.99
2661	#4	.250	.187	2.42	18.78
2662	#6	.250	.187	2.42	18.78
2663	#6	.312	.187	2.53	19.88
2660	#6	.375	.240	2.75	20.99
2665	#8	.375	.246	2.75	20.99
2666	#10	.375	.308	2.75	20.99
2664	¼"	.500	.308	3.98	30.94
2669	17/64"	.500	.365	3.98	30.94
2668	⅜"	.625	.498	3.98	30.94
2667	⅜"	.750	.498	6.29	48.60

MOLDED NYLON WASHERS

H.H.S. No.	Dimensions, Inches SHOULDERED I.D.	Neck Dia.	Neck Lgth.	Shldr. Dia.	Net per C
2681	.122	.187	.040	.281	$3.06
2682	.146	.218	.040	.328	3.17
2683	.174	.250	.050	.375	3.28
2684	.201	.281	.050	.437	3.62
2685	.260	.375	.060	.562	3.93
2686	.385	.500	.060	.750	6.22

H.H.S. No.	Dimensions, Inches FINISHING O.D.	I.D.	Thck.	Net per C
2687	.437	.143	.100	$6.56
2688	.515	.171	.115	6.90
2689	.580	.191	.152	7.23
2690	.609	.225	.160	7.89
2691	.683	.251	.183	8.52

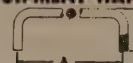
FIBRE WASHER KIT

Contains about 1000 flat and shoulder washers packed in an 18-compartment plastic box in the following approximate quantities: 100 each #2151, 2161, 2153, 2160; 75 each #2150, 2162; 60 each #2155, 2163; 50 each #2156, 2164, 2154, 2165; 35 each #2159, 2167; 25 each #2158, 2168; 10 each #2157 and 2169.

H. H. Smith No. 2173—

Net Each..... **$19.59**

EQUIPMENT HANDLES



5/32" DIAM. HANDLES

Internal 4-40 thd. x 3/8" deep.

H.H.S. No.	Dimensions, Ins. A	B	Net Each
BRASS			
1632	1¼	1	$2.50
1633*	1¼	1	2.19
1636	2	1	2.58
1637*	2	1	2.27
1640	3	1	2.66
1641*	3	1	2.35
*Black oxide finish; others nickel plate.			
ALUMINUM			
1634†	1¼	1	$2.19
1635	1¼	1	2.35
1638†	2	1	2.27
1639	2	1	2.43
1642†	3	1	2.35
1643	3	1	2.50
†Satin finish; others black anodize.			

1/4" DIAM. HANDLES

Internal 8-32 thd. x 3/8" deep.

BRASS			
1616	2	1½	$2.50
1617*	2	1½	2.19
1620	3	1½	2.82
1621*	3	1½	2.50
1624	4	1½	3.13
1625*	4	1½	2.82
1628	6	1½	3.75
1629*	6	1½	3.44
*Black oxide finish; others nickel plate.			
ALUMINUM			
1618†	2	1½	$1.72
1619	2	1½	1.88
1622†	3	1½	2.04
1623	3	1½	2.19
1626†	4	1½	2.35
1627	4	1½	2.50
1630†	6	1½	2.97
1631	6	1½	3.13
†Satin finish; others black anodize.			

5/16" DIAM. HANDLES

Internal 10-32 thd. x 7/16" or 9/16" deep.

BRASS			
2050†	3	1 5/16	$2.90
1601†*	3	1 5/16	2.58
2057	3	1½	3.05
1602*	3	1½	2.74
2056	4¼	1½	3.75
1604*	4¼	1½	3.44
2051	4 5/16	1½	3.83
1605*	4 5/16	1½	3.52
2052	6 1/16	1¾	4.54
1606*	6 1/16	1¾	4.22
*Black oxide finish; others nickel plate. †Thread depth 7/16"; others 9/16" deep.			

5/16" DIAM. BRASS HANDLES WITH EXTERNAL THREAD

Supplied with matching ferrules and brass, nickel-plated hex nuts. External 5/16-18 thread x 2 1/32" long behind ferrule.

1607	2	2⅛	$4.07
1608*	2	2⅛	3.75
1609	3	2⅛	4.46
1610*	3	2⅛	4.15
1611	4	2⅛	4.77
1612*	4	2⅛	4.46
2053	4¼	2⅛	5.00
1613*	4¼	2⅛	4.69
1614	6	2 1/16	5.47
1615*	6	2 1/16	5.16
*Black oxide finish; others nickel plate.			

9/32" x 5/8" OVAL HANDLES

Internal 10-32 thread x 9/32" or 1/2" deep.

BRASS			
1644‡	3	1 9/32	$ 7.82
1645‡*	3	1 9/32	6.88
1647	4 5/16	1½	8.29
1648*	4 5/16	1½	8.29
1651	6 1/16	1¾	11.10
1653*	6 1/16	1¾	10.32
1655	9	1¾	13.13
1657*	9	1¾	12.19
‡Thread depth 9/32"; others 1/2" deep. *Black oxide finish; others nickel plate.			
ALUMINUM			
1646	3	1 9/32	$5.16
1649	4 5/16	1½	6.41
1654	6 1/16	1¾	6.72
1658	9	1¾	7.82

Internal 10-24 thread x 9/32" deep. Black anodize finish.

FERRULES



Fig. 1 Fig. 2.

Brass and aluminum ferrules, finished as shown, to match handles listed on this page.

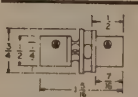
H.S.S. No.	Fig.	Dimensions, Inches A	B	C	D	E	Net per C
BRASS							
1664	1	5/32	.109	1/8	1/4	3/64	$21.00
1665*	1	5/32	.109	1/8	1/4	3/64	15.00
1668	1	1/4	.203	3/16	3/8	1/16	22.00
1669*	1	1/4	.203	3/16	3/8	1/16	16.00
2055	1	5/16	.219	1/4	9/16	1/16	45.00
1673*	1	5/16	.219	1/4	9/16	1/16	40.00
2054	2	5/16	.196	5/16	1/4	3/32	34.00
1672*	2	5/16	.196	5/16	1/4	3/32	29.00
*Black oxide finish; others nickel plate.							
ALUMINUM							
1666†	1	5/32	.109	1/8	1/4	3/64	$16.00
1667	1	5/32	.109	1/8	1/4	3/64	16.00
1670†	1	1/4	.203	3/16	3/8	1/16	17.00
1671	1	1/4	.203	3/16	3/8	1/16	17.00
†Satin finish; others black anodize.							

FLEXIBLE SHAFTS



High quality, phosphor bronze, non-magnetic, non-rusting flexible shafts. Remote control when necessary to mount variable capacitors and controls away from panel at any angle up to 90°. Free from backlash. With 1/4" male hub or 1/4" female coupler with 8-32 setscrew.

H.H.S. No.	Length, Ins.	End Fitting	Net Each
151	3	Hub	$2.32
152	6	Hub	2.63
153	3⅝	Coupler	3.40
154	6⅝	Coupler	3.70



FLEXIBLE NYLON SHAFT COUPLINGS

Molded nylon with molded-in brass bushings. Supplied with Allen head setscrews. **H. H. Smith No. 164 Flexible Shaft Coupling**—Net Each..... **$2.78**

SHAFT COUPLERS



Supplied with two 6-32 x 1/8" slotted set screws, except as noted.

H.H.S. No.	Shaft Diams. Ins.	O.D. Ins.	Lgth., Ins.	Net per C
NICKEL-PLATED BRASS				
120	1/4 & 1/4	7/16	3/4	$47.00
131	1/4 & 3/8	1/2	3/4	56.00
138*	1/4 & 1/4	7/16	3/4	75.00
180†	1/8 & 1/4	9/32	3/4	47.00
INSULATING BLACK FIBRE PER MIL-F-1148A, GRADE CH				
140	1/4 & 1/4	7/16	3/4	$47.00
*Two pairs of set screws 90° apart. †Miniature type has 4-40 x 1/8" Allen head set screws.				

PANEL BEARING ASSEMBLIES



Brass, nickel plated panel bearings supplied with hex nut.

H.H.S. No.	Dimensions, Inches A	B	C	Net per C
1/4" SHAFT—3/8-32 BUSHING				
148	3	1/2	1/2	$87.00
149	6	1/2	1/2	93.00
1/8" SHAFT—1/4-32 BUSHING				
1448	2	1 1/32	7/16	$87.00
1449	4	1 1/32	7/16	93.00

SHAFT LOCKS

Nickel-plated brass; with lock nut. Standard types, 181 and 182, for 1/4" shafts; miniature type, 183, for 1/8" shafts. Overall length is 1/2". Max. diam.: No. 181, 3/8"; No. 182, 1"; No. 183, 5/16".

H.H.S. No.	Hex Diam.	Thd.	Net per C
181	1/2"	3/8-32	$ 58.00
182	1/2"	3/8-32	111.00
183	1 1/32"	1/4-32	40.00

PANEL MOUNT SHAFT LOCKS

Combination panel bearing and shaft lock. Brass, nickel plated. For 1/4" shafts and 3/8" panel hole.

H.H.S. No.	Description	Net per C
114	Single hole mount	$64.00

SHAFT EXTENDERS



Nickel-plated brass and fibre shaft extenders with 1/4" full round shaft extensions and 6-32 setscrews, except as indicated.

H.H.S. No.	Cplr. I.D., Ins.	Shaft Lgth., Ins.	Material	Net per C
150	1/4	1¼	Brass	$75.00
130	1/4	1¼	Fibre	75.00
160	1/4	5/8	Brass	58.00
161	1/4	5/8	Fibre	58.00
189*	1/8	5/8	Brass	58.00
*Miniature type with 4-40 x 1/8 setscrew.				

SHAFT EXTENDERS FOR 1/4" SHAFTS



Nickel-plated brass shaft extenders with 6-32 setscews.

H.H.S. No.	Shaft Length, Ins.	Shaft Thck., Ins. *	Net per C
FULL ROUND			
2356	2	.250	$70.00
2357	3	.250	71.00
2358	4	.250	75.00
WITH FLAT			
2359	2	.219	$ 76.00
2360	3	.219	83.00
2361	4	.219	103.00
2362	2	.156	76.00
2363	3	.156	83.00
2364	4	.156	103.00
*For flatted shafts, measured at right angle to flatted surface.			

1/4" VOLUME CONTROL BUSHING EXTENDERS



Nickel-plated brass.

H.H.S. No.	Dimension A, Inches	Net per C
2350	3/8	$61.00
2351	5/8	67.00
2352	5/8	72.00
2353	1 1/16	83.00
2354	1 1/16	85.00
2355	3/4	89.00

CHASSIS FASTENERS



2039 2040

Designed to be swaged onto metal chassis for use as mounting surfaces for terminal boards, tie strips, etc. Cadmium-plated brass.

H.H.S. No.	Dimen. X	Chassis Thckns.	Net per C
2039 SERIES, .310" SQUARE			
2039B	.105"	.062"	$30.12
2039C	.135"	.094"	30.12
2039D	.165"	.125"	30.12
2040 SERIES, .250" SQUARE			
2040A	.075"	.031"	$30.12
2040B	.105"	.062"	30.12
2040C	.135"	.094"	30.12
2040D	.165"	.125"	30.12

H. H. Smith Clamps and Punches

ALL-MOLDED PLASTIC CABLE CLAMPS
NYLON (FIG. A)



ets specs. MIL-P17091A, Amend. 2.

H.S. lo.	Dimensions, inches A	B	C	D	Net per C
71	1/8	.360	.167	3/8	$ 4.42
72	5/16	.423	.167	3/8	4.64
73	1/4	.457	.167	3/8	4.97
74	5/16	.498	.167	3/8	5.53
75	3/8	.529	.167	3/8	5.86
76	7/16	.560	.167	3/8	6.07
77	1/2	.592	.167	3/8	6.63
78	5/16	.623	.204	1/2	7.74
79	5/8	.654	.204	1/2	8.28
80	11/16	.752	.204	1/2	8.84
81	3/4	.783	.204	1/2	9.34
82	7/8	.845	.204	1/2	9.94
83	1	.908	.204	1/2	11.60
84	1 1/8	.970	.204	1/2	13.80
85	1 1/4	1.062	.204	1/2	15.47

NYLON (FIG. B)

ack. Meet MIL-Std-24E, MS-30914 rd.), MIL-C-21565 (NAS), MIL-P-091-B, MIL-P-20693.

940	1/8	.360	13/64	1/2	$2.53
941	5/16	.423	13/64	1/2	2.64
942	1/4	.457	13/64	1/2	2.75
943	5/16	.495	13/64	1/2	2.86
944	3/8	.529	13/64	1/2	2.97
945	7/16	.560	13/64	1/2	3.08
946	1/2	.592	13/64	1/2	3.19
947	5/16	.623	13/64	1/2	3.32
948	5/8	.654	13/64	1/2	3.54
949	11/16	.752	13/64	1/2	3.65
950	3/4	.783	13/64	1/2	3.87
951	7/8	.845	13/64	1/2	4.09
952	1	.908	13/64	1/2	4.29
955	1/8	.325	13/64	3/8	2.09
956	5/16	.378	13/64	3/8	2.20
957	1/4	.409	13/64	3/8	2.31
958	5/16	.441	13/64	3/8	2.42
959	3/8	.471	13/64	3/8	2.53
960	7/16	.519	13/64	3/8	2.64
961	1/2	.550	13/64	3/8	2.75

CELLULOSE (FIG. B)

leet MIL Std. 242B (Ships) and MS30914 Ord.).

8925	1/8	.360	13/64	1/2	$2.75
8926	5/16	.423	13/64	1/2	3.03
8927	1/4	.457	13/64	1/2	3.32
8928	5/16	.498	13/64	1/2	3.47
8929	3/8	.529	13/64	1/2	3.76
8930	7/16	.560	13/64	1/2	4.13
8931	1/2	.592	13/64	1/2	4.42
8932	5/16	.623	13/64	1/2	5.41
8933	5/8	.654	13/64	1/2	6.40
8934	11/16	.752	13/64	1/2	6.89
8935	3/4	.783	13/64	1/2	7.18
8936	7/8	.845	13/64	1/2	7.89
8937	1	.908	13/64	1/2	8.72

POLYPROPYLENE (FIG. B)

Conforms to applicable MIL Specs.

8910	1/8	.360	13/64	1/2	$1.76
8911	5/16	.423	13/64	1/2	1.98
8912	1/4	.457	13/64	1/2	2.09
8913	5/16	.498	13/64	1/2	2.20
8914	3/8	.529	13/64	1/2	2.31
8915	7/16	.560	13/64	1/2	2.42
8916	1/2	.592	13/64	1/2	2.53
8917	5/16	.623	13/64	1/2	2.64
8918	5/8	.654	13/64	1/2	2.75
8919	11/16	.752	13/64	1/2	2.86
8920	3/4	.783	13/64	1/2	2.97
8921	7/8	.845	13/64	1/2	3.19
8922	1	.908	13/64	1/2	3.32

PROPIONATE CELLULOSE (FIG. A)

Meets MIL Std. 242B (Ships), MS30914 (Ord.). Color: Clear.

8925	1/8	.360	.204	1/2	$3.76
8926	5/16	.423	.204	1/2	4.03
8927	1/4	.457	.204	1/2	4.23
8928	5/16	.498	.204	1/2	4.36
8929	3/8	.529	.204	1/2	4.51
8930	7/16	.560	.204	1/2	4.72
8931	1/2	.592	.204	1/2	4.83
8932	5/16	.623	.204	1/2	5.03
8933	5/8	.654	.204	1/2	5.27
8934	11/16	.752	.204	1/2	7.39
8935	3/4	.783	.204	1/2	7.54
8936	7/8	.845	.204	1/2	7.78
8937	1	.908	.204	1/2	8.14
8938	1 1/8	.970	.204	1/2	8.39
8939	1 1/4	1.062	.204	1/2	9.26

LACING CORD AND TAPE
NYLON CORD

Meets MIL-T-713-D, Classes 1, 2 and 3. Supplied in 1 lb. tubes.

H.H.S. No.	Class	Lbs. Test	Yard.	Net per Lb.
NATURAL				
734	1	70	560	$17.45
735	2	48	750	17.45
736	3	32	1180	17.45
BLACK				
791	1	70	560	$23.28
792	2	48	750	23.28
793	3	32	1180	23.28

FLAT NYLON TAPE

Meets MIL-T-43435, Type 1. Polyamide (Nylon). B finish.

H.H.S. No.	W., Ins.	Thck., Ins.	Test Lbs.	Yds.	Net Each
NATURAL					
763	.225	.014	135	250	$20.95
764	.125	.013	80	250	20.95
766	.090	.012	50	500	20.95
765	.062	.012	25	500	20.95
767	.048	.008	15	500	20.95
BLACK					
787	.225	.014	135	250	$23.28
788	.125	.013	80	250	23.28
769	.090	.012	50	500	23.28
789	.062	.012	25	500	23.28
770	.048	.008	15	500	23.28

FLAT DACRON TAPE

Meets MIL-T-43434, Type 2. Polyester (Dacron), B finish. Supplied on 500 yard spools.

H.H.S. No.	W., Ins.	Thck., Ins.	Test Lbs.	Size	Net Each
NATURAL					
737	.225	.014	135	1	$20.95
738	.090	.014	50	2	20.95
741	.062	.010	25	4	20.95
BLACK					
728	.225	.014	135	1	$23.28
729	.090	.014	50	2	23.28
731	.062	.010	25	4	23.28

LINEN CORD

Meets MIL-T-713-D, Type N. Mildew proofed. Supplied in 1 lb. tubes.

H.H.S. No.	Ply	Class	Yard.	Net per Lb.
NATURAL				
727	4	.....	850	$20.95
730	6	3	600	20.95
739	8	2	470	20.95
733	9	.....	400	20.95
742	12	1	300	20.95

NYLON PERFORATED STRAPPING

For bundling of wire, cable and tubing. Use No. 803 ratchet buckle for fast assembly. Supplied in 50 ft. rolls.

H. H. Smith No. 802 Perforated Strapping Net per 50 ft. **$34.92**

H. H. Smith No. 804 Tightening Tool—Used with strapping for fast assembly. Net Each **$25.61**

NYLON RATCHET BUCKLE

For No. 802 strapping. Quick and easy bundling of wires and cables.

H. H. Smith No. 803 Ratchet Buckle—Net per 100 ..... **$18.08**

BEADED WIRE TIES

White nylon with attached holding clip.

H.H. Smith No. 8962 Wire Ties—Net per 100 ..... **$2.53**

NYLON ADJUSTABLE CABLE TIE

Efficiently and economically replaces lacing cord, tapes and other fasteners in wrap-around applications. Adjustable from 1/8" to 1 3/4" diameter. Once applied, it cannot slip.

H. H. Smith No. 8963C Cable Tie—Net per 100 ..... **$1.77**

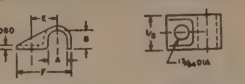
H. H. Smith No. 8963M Cable Tie—Net per 1000 ..... **$14.10**

NYLON LOCKING CLAMP

Wedge and ratchet design makes for positive holding and locking. Accommodates cables from 1/8" to 1 3/4". No knot tying, just slip clamp around cable, insert tongue and pull tight.

H. H. Smith No. 800 Locking Clamp—Net per 100 ..... **$9.94**

NYLON HALF CLAMPS



Meet MIL-P-17091A and Amend. 2; MIL-P-17091B1; MIL-M-20693A, Type 1; MIL-STD-242A (Ships); MIL-STD-242B (Ships); MS-89014 (Ord.). Black.

H.H.S. No.	Wire Size	Dim., Inches A & B	E	F	Net per C
8964	1/8"	.115	.307	.675	$6.07
8965	3/16"	.172	.336	.732	6.51
8966	1/4"	.234	.366	.793	7.18
8967	5/16"	.297	.400	.859	7.40
8968	3/8"	.359	.430	.920	7.74
8969	7/16"	.422	.460	.980	8.00
8970	1/2"	.484	.492	1.044	8.84

H. H. SMITH (GREENLEE) CHASSIS PUNCHES FOR RADIO, TV AND ELECTRONICS



Complete line of chassis hole punches for swiftly cutting clean, accurately located holes in chassis and panels. An assortment of round, square, "D", and keyed holes can be punched by inserting in drilled pilot hole, and turning with wrench. Finished hole is smooth, accurately sized without burrs. Round punches are provided with center-line markings for enlarging holes larger than pilot hole. Individually packed.

ROUND HOLE PUNCHES

H.H.S. No.	Hole Size	Net Each	H.H.S. No.	Hole Size	Net Each
3801	1/2"	$6.42	3814	1 1/4"	$ 7.37
3802	9/16"	6.32	3815	1 5/16"	9.15
3803	5/8"	6.32	3816	1 3/8"	9.15
3804	11/16"	6.42	3817	1 1/2"	9.90
3805	3/4"	6.42	3818	1 5/8"	12.10
3806	13/16"	6.42	3819	1 3/4"	13.70
3807	7/8"	6.42	3820	1 7/8"	16.86
3808	15/16"	7.05	3821	2"	17.58
3809	1"	7.05	3822	2 1/8"	18.96
3810	1 1/16"	7.37	3823	2 1/4"	19.90
3811	1 1/8"	7.37	3824	2 1/2"	31.91
3812	1 5/16"	7.37	3825	2 3/4"	44.45
3813	1 3/16"	7.37	3826	3"	61.09

H.H.S. No. 3836 Meter Hole Punch—Hole size, 2 23/32". Net Each **$21.75**

SQUARE PUNCHES

3827	1/2"	$16.20	3830	7/8"	$20.60
3828	5/8"	16.00	3831	1"	21.10
3829	3/4"	17.60			

KEY PUNCHES

3832	15/32"	$17.30	3834	11 1/64"	$23.10
3833	15/16"	20.80	3835	11 7/64"	27.60

"D" PUNCHES

3837	1/2"x1 1/32"	11.40	3838	3/8"x1 3/32"	12.10

STANDARD DRIVE SCREWS

H.H.S. No.	Use with Numbers	Net Each
3847	3804-3807	$1.89
3848	3808-3817	2.31
3849	3818, 3819	3.05
3850	3820-3824	3.26

BALL BEARING DRIVE SCREWS

Reduces friction and effort when punching round holes 1 1/16" and larger. For use only with round punches listed above.

3839	3804-3808	$3.89
3840	3809-3817	4.64
3841	3818, 3819	9.15
3842	3820-3824 and 3836	9.45

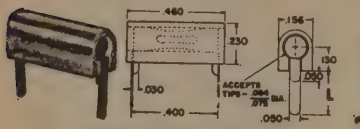
RELAY SOCKET PUNCHES

H.H.S. No.	Hole Size, In.	Net Each
3845	1.018 x .861	$43.50
3846	1.250 x 1.375	65.93

CHASSIS PUNCH SET

Set of seven of the most often used chassis punches for electronic construction. Packed in plastic platform box to keep punches sharp and rust free. Includes sizes: 1/2", 5/8", 3/4", 7/8", 1", 1 1/8", 1 1/4". **H.H.S. No. 3844 Chassis Punch Set**—Net Each **$57.93**

PRINTED CIRCUIT TEST JACKS
MILITARY TYPE (MEETS MIL-C-39024/11)



Military PC Test Jack

Double entry design; probes insert from either end of jack. Closed entry construction will not accept probes larger than .084", will contact probes down to .074". Closed bottom design keeps jack from fouling with solder or flux. Locking ears keep jack firmly in board until soldered. Precise dimensions allow for automated assembly on boards. **Ratings:** Operating voltage, 1500 V at 60 Hz rms, sea level; 350 V, 60 Hz rms at 50,000 feet. Maximum current rating, 5 amps AC. Contact resistance, 20 mV drop max. at specified current, at 25° C. **Mechanical Data:** Thermal shock, vibration, humidity, insulation resistance, salt spray per MIL-STD-202B. All mechanical tests per applicable section of MIL-C-39024. Insertion force, 30 oz. maximum; withdrawal force, 3 oz. minimum with .080" probe. **Body:** Molded nylon per MIL-P-17091. Available in 10 colors, as indicated below. **Spring:** Beryllium copper per QQ-C-533. **Finish:** Gold plate per MIL-G-45204, Class I, Type 2. Nickel underplate per QQ-N-290, Class I, Type 7, .0002" thick. **Mounting:** Mounts in .052" dia. holes on .400" centers; board thickness as specified below. Can be spaced side-by-side .160" on centers minimum.

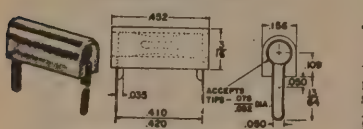
H. H. Smith No. 325—"L" dimension, 0.156": for boards up to 1/8" thick. Meets MIL-C-39024/11-01 through -10.
Net per 100.....**$22.00**

H. H. Smith No. 321—"L" dimension, 0.219" for boards up to 1/8" thick. MIL-C-39024/11-21 through -30.
Net per 100.....**$26.00**

ECONOMY MILITARY TYPE

H.H.S. No.	Spring Plating	Net per C
"L" DIMENSION 0.156"		
306	Gold flash over .0002" silver	$12.00
359	.0002" silver	20.00
"L" DIMENSION 0.219"		
328	Gold flash over .0002" silver	$22.00
402	.0002" silver	20.00

COMMERCIAL TYPE



Commercial PC Test Jack

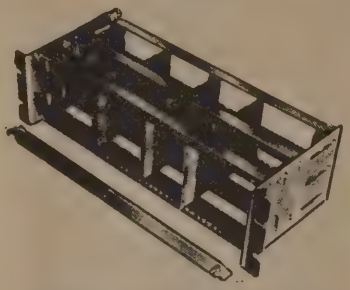
Mechanical Data: Thermal shock, vibration, humidity, insulation resistance and salt spray tests per MIL-STD-202B. Solderability per MIL-S-6872. Insertion and withdrawal force, 8 oz. min., 5 lbs. max. with .080" (±.001") dia. probe. **Ratings:** 5 amps AC for 10° C temp. rise, continuous duty. 1.5 kV, 60 Hz AC continuous working voltage. Contact resistance, 5 milliohms max. at rated current. Capacitance, less than 5 mHz at 1 pF. **Finish:** Silver underplate, .0002" minimum per QQ-S-365, Type I, with .00003" gold overplate per MIL-F-14072, M-310. **Mounting:** Mounts in .052" dia. holes, on .400" centers, in boards up to 3/16" thick. Can be spaced side-by-side .160" on centers min.
H. H. Smith No. 430—
Net per 100.....**$26.00**

ECONOMY COMMERCIAL TYPE

H. H. Smith No. 499—Spring is gold flash over .0002" silver. Net per 100..**$22.00**

H. H. Smith No. 498—.0002" silver.
Net per 100.....**$20.00**

ADJUSTABLE PRINTED CIRCUIT CARD RACK



Universally adjustable, economical support system for printed circuit cards. Adjusts up-and-down for card widths from 2¾" to 4¼"; adjusts front-to-back for card lengths from 3½" to 7½". Card spacing is adjustable in .400" increments. Adjustable, calibrated slide racks for fast, precise adjustment to any card size. Adjustable locking bar holds cards securely against rear connectors; adjustable for various PC connector sizes. Fits standard 19" racks.

SPECIFICATIONS

Card Capacity: Up to 39 cards (.400" minimum centers). **Card Sizes:** With locking bar: 4¾" maximum width, 6½" maximum length, 2⅛" minimum width, 4⅜" minimum length. Without front card lock: 7½" maximum length, 3½" minimum length. **Card Guides:** Precision molded plastic. Four guides provided for each card to ensure location accuracy. **Connector Spacing:** Accommodates card-edge connectors with mounting centers from 0.936" to 4.437". **Locking Bar:** Held in place with captive screws for rapid card change. Card identification marking available on front of locking bar.
H. H. Smith No. 3050 Card Rack—
Net Each, Lots of 1-9.....**$36.11**
H. H. Smith No. 3051 Board Guides—
Net per 100.....**$5.50**

P.C. CARD RACK BLANK END PLATES

Anodized aluminum blank end plates for P.C. card racks. Designed for use with the standard No. 3050 hardware when designing custom rack sizes. Flanged and notched for standard EIA rack mounting. Drilling templates furnished with each pair.

H.H.S. No.	Lgth, Ins.	Hgth, Ins.	Ctrs, Ins.	Net Each
3052	7.812	5.219	1.125	$ 5.78
3053	9.000	6.970	2.000	6.98
3054	11.000	8.718	2.875	8.42
3055	12.000	5.219	1.125	6.98
3056	12.000	10.470	3.750	10.83

P.C. CARD RACK STACKING PLATES

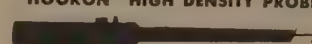
Use to stack two or more No. 3050 card racks. Can also be used to create a double size rack to accommodate larger cards. Anodized aluminum, supplied with mounting hardware.
H. H. Smith No. 3057 Rack Stacking Plates—Net Each.....**$4.20**

RACK CARD GUIDES

Mount P.C. boards in rack chassis either horizontally or vertically. Guides snap into .125" dia. holes at both ends. Natural nylon.

H.H.S. No.	Dimensions A	Dimensions B	Net per C
6339	3"	2½"	$53.20
6340	4"	3½"	58.80
6341	6"	5½"	64.40
6342	8½"	8"	70.00

"HOOKON" HIGH DENSITY PROBE



The "Hookon" reaches thru the densest concentrations of wires and terminals and hooks onto leads, pins, etc., for safe, sure connections. The fingertip slide control includes a self-locking open position and a spring grip upon trigger release. Universal socket at lead end accepts wires, test prods, phone clips or banana plugs. The corrosion-resistant steel clip is fully covered by body of Lexan plastic.
H. H. Smith No. 3070 Hookon Probe—Net Each.....**$5.00**
H. H. Smith No. 3071 RF Adapter—Converts Hookon probe to BNC female for RF use. Net Each.....**$2.50**
H. H. Smith No. 3072 Ground Lead Extension—Clips to No. 3071 RF Adapter to extend ground lead by 18". Has insulated miniature alligator clip. Net/100.**$94.00**

P.C. BOARD GUIDES



Mount P.C. boards of a width. Nylon guides snap in .17" x .31" hole. Double channeled for stacking. Accepts board thicknesses from .03 to .075".

H.H.S. No.	Length	Net per C
6249	1"	$22.0
6250	2"	23.1
6251	3"	24.2



NYLON P.C. CARD HANDL

Designed for use as a perma nent handle or puller for quic easy card insertion and r moval.
H. H. Smith No. 6298—
Net per 100.....**$44.0**



NYLON P.C. CARD EJECTO

For quick, easy removal o boards. Lever action prevent damage to card or compo nents. For cards to 1/8" thick Complete with mtg. pins.
H. H. Smith No. 6297 P.C Card Ejector—
Net per 100.....**$38.5**



POWER TRANSISTOR SOCKET

For use with TO-3 transistors Phenolic body with phosphor bronze contacts, gold plated over silver. Mounting plat tapped for 6-32 screws. Bosses on mtg. holes eliminate need for insulating washers.
H. H. Smith No. 6266 Power Transistor Socket—
Net per 100.....**$55.00**



TRANSISTOR WAFER SOCKETS

For use with TO-3 and TO-66 transistors. Molded nylon top with molded-on washers. Mounting bracket self-threading for #6 screws. Cadmium-plated brass contacts and mounting plate.

H.H.S. No.	For Case	Net per C
6288	TO-3	$27.50
6289	TO-66	27.50



PROTECTIVE NYLON COVER

Case insulator for top of transistors. Webbed construction for free air flow.

6287	TO-3	$44.00
6294	TO-66	36.30
6295	TO-5	12.01
6296	TO-18	4.95



6285, 6286



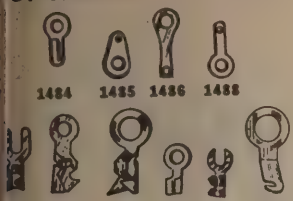
6291

MICA INSULATING WASHERS

Improves heat transfer between power transistor case and chassis or heat sink.

H.H.S. No.	For Case	Net per C
6285	TO-3	$5.50
6286	TO-66	5.50
6291	TO-36	5.50

OT TINNED SOLDER LUGS



PHOSPHOR BRONZE

.H.S. No.	Lgth.	Thick-ness	Hole	Net per M
.84	5/16"	.020"	No. 6	$13.97
.85-4	1 7/32"	.012"	No. 4	13.97
.85-6	1 7/32"	.012"	No. 6	13.97
.85-8	1 7/32"	.012"	No. 8	13.97
.85-10	1 7/32"	.012"	No. 10	13.97
.86-4	1 3/16"	.012"	No. 4	13.97
.86-6	1 3/16"	.012"	No. 6	13.97
.86-8	1 3/16"	.012"	No. 8	13.97
.86-10	1 3/16"	.012"	No. 10	13.97
.88-4	9/16"	.012"	No. 4	13.97
.88-6	9/16"	.012"	No. 6	13.97
.88-8	9/16"	.012"	No. 8	13.97

BRASS

490	3/4"	.020"	No. 10	$46.57
491*	1 5/16"	.020"	No. 10	64.02
493	1 1/8"	.027"	1/4"	93.14
494-6	5/8"	.020"	No. 6	23.28
494-8	5/8"	.020"	No. 8	23.28
495	5/8"	.020"	No. 8	34.92
496	3/4"	.020"	1/4"	17.45
497	7/8"	.017"	3/8"	20.95

opper.

SOLDER LUG ASSORTMENT

mplete assortment of the most widely ed solder lug styles, with hole sizes from thru #10. Packed in re-usable clear plas- compartmented box. Includes 1400 sol- r lugs.

H. Smith No. 1546—Net..... **$23.67**

LOCKING TERMINAL LUGS



HOT TINNED BRASS

H.H.S. No.	Lgth.	Thick-ness	Hole	Net per M
410-4*	7/16"	.018"	No. 4	$17.00
410-6*	7/16"	.018"	No. 6	17.00
410-8*	7/16"	.018"	No. 8	17.00
410-10*	5 7/64"	.018"	No. 10	17.00
410-14*	1 3/16"	.018"	1/4"	17.00
411-4†	4 7/64"	.020"	No. 4	17.00
411-6†	4 7/64"	.020"	No. 6	17.00
411-8†	4 7/64"	.020"	No. 8	17.00
412-4‡	5/8"	.018"	No. 4	17.00
412-6‡	5/8"	.018"	No. 6	17.00
412-8‡	5/8"	.018"	No. 8	17.00
413-4§	2 3/32"	.018"	No. 4	17.00
413-6§	2 3/32"	.018"	No. 6	17.00
413-8§	2 3/32"	.018"	No. 8	17.00
414-4ǂ	1 3/16"	.018"	No. 4	17.00
414-6ǂ	1 3/16"	.018"	No. 6	17.00
414-8ǂ	1 3/16"	.018"	No. 8	17.00
414-10ǂ	5 3/64"	.018"	No. 10	17.00
415-4*	4 7/64"	.018"	No. 4	17.00
415-6*	4 7/64"	.018"	No. 6	17.00
415-8*	4 7/64"	.018"	No. 8	17.00
416-4^	1 1/16"	.020"	No. 4	17.00
416-6^	1 1/16"	.020"	No. 6	17.00
416-8^	1 1/16"	.020"	No. 8	17.00
465*	4 7/64"	.020"	No. 4	17.00
466*	4 7/64"	.020"	No. 6	17.00
467*	7/8"	.020"	No. 8	17.00
468*	1 5/16"	.020"	1/4"	17.00

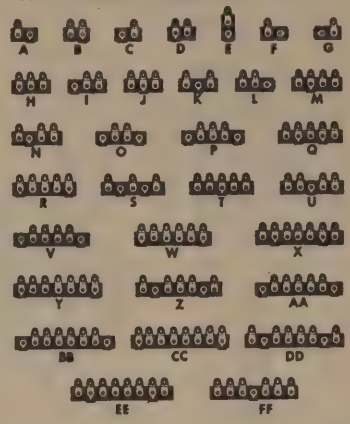
†Fig. A. †Fig. B. ‡Fig. C. §Fig. D. ǂFig. E. ¹Fig. F. ^Fig. G.

LOCKING TERMINAL LUG ASSORTMENT

Complete assortment of most widely used ocking terminal lug styles, with hole sizes rom #4 thru #10. Includes approx. 900 ugs, packed in re-usable clear plastic com- partmented box.

H. H. Smith No. 1547—Net..... **$23.67**

TIE DOWN TERMINAL STRIPS



Standard Type: XP phenolic strip, 3/8" wide x .062" thick. Cadmium-plated steel lugs, spaced on 3/8" centers. Mounting, .140" I.D. for #6 screw.

Miniature Type: XP phenolic strip, 5/16" wide x .062" thick. Cadmium-plated steel lugs, spaced on 1/4" centers. Mounting, .096" I.D. for #3 screw.

Fig.	Standard Type H.H.S. No.	Standard Type Net per C	Miniature Type H.H.S. No.	Miniature Type Net per C
A	861	$ 7.70	1061	$ 8.80
B	862	7.70	1062	8.80
C	813	7.70	1003	8.80
D	820	7.70	1004	8.80
E	849	7.70	1039	8.80
F	828	7.70	1005	8.80
G	821	7.70	1009	8.80
H	830	8.80	1055	11.01
I	829	8.80	1043	11.01
J	864	8.80	1064	11.01
K	863	8.80	1063	11.01
L	846	8.80	1059	11.01
M	850	9.90	1074	13.21
N	857	9.90	1072	13.21
O	867	13.21	1067	16.51
P	853	15.41	1073	18.71
Q	868	15.41	1068	16.51
R	847	15.41	1071	16.51
S	865	15.41	1065	18.71
T	866	13.21	1066	16.51
U	855	13.21	1084	18.71
V	869	17.61	1069	22.02
W	854	17.61	1076	22.02
X	879	18.71	1158	24.22
Y	859	18.71	1156	24.22
Z	871	18.71	1157	24.22
AA	860	18.71	1060	24.22
BB	848	19.81	1078	27.52
CC	900	19.81	1075	28.62
DD	858	19.81	1096	27.52
EE	870	19.81	1070	28.62
FF	901	18.71		

UNIVERSAL TERMINAL STRIPS

Same as standard type listed above, except that lugs are dimensioned to also accept female quick-connects.

Fig.	H.H.S. No.	Net per C	Fig.	H.H.S. No.	Net per C
A	1085	$12.11	P	1092	$24.22
B	1086	12.11	Q	1093	24.22
E	1087	12.11	T	1094	22.02
K	1088	15.41	AA	1095	30.83
J	1089	15.41	V	1097	29.72
O	1090	19.81	BB	1098	35.23
S	1091	24.22	EE	1099	36.33

BRACKET TERMINAL STRIPS

Same as standard type listed above, except that mounting brackets are squared.

Fig.	H.H.S. No.	Net per C	Fig.	H.H.S. No.	Net per C
K	1077	$13.21	V	1081	$16.42
S	1079	22.02	AA	1082	26.42
P	1080	22.02	BB	1083	27.52

TERMINAL STRIP ASSEMBLY



Cadmium-plated steel lugs and base. Mounting holes for #6 screw. XP phenolic strip.

H.H.S. No.	Ter-minals	Dimensions A	Dimensions B	Net per C
3002	2	1.000"	5/8"	$16.51
3003	3	1.312"	13/16"	18.71
3004	4	1.625"	1 1/16"	23.12
3005	5	1.937"	1 5/16"	25.32
3006	6	2.250"	1 7/8"	27.52
3007	7	2.562"	2 3/16"	29.72
3008	8	2.875"	2 1/2"	31.93
3009	9	3.187"	2 13/16"	34.13
3010	10	3.500"	3 1/8"	36.33
3011	11	3.812"	3 7/16"	38.53
3012	12	4.125"	3 1/4"	39.63
3013	13	4.937"	4 3/32"	41.84

INSTRUMENT CASES AND COVERS



For small instruments and test equipment. Glass finish thermo-setting plastic. Threaded brass inserts for cover screws. **Black only.**

H.H.S. No.	Dimensions, Inches L	W	D	Net Each
2377*	4	2 7/8	1 3/16	$1.29
2291	5	4 1/4	1 3/4	2.72
2255	6 1/4	3 3/4	2	3.58
2257	6 13/16	5 3/32	2 5/16	5.01
2289	8 1/2	7 1/16	3	7.16

*Inserts tapped 4-40; others 6-32.

PHENOLIC PANELS

H.H.S. No.	Fits Case No.	Net Each
2378	2377	$0.51
2292	2291	.79
2256	2255	1.79
2260	2257	3.01
2390	2289	4.73
2379†	2255	2.44

†Brushed and lacquered aluminum.

SCREW TYPE TERMINAL BOARD

XP phenolic strip, 3/4" wide x .062" thick. Hot tinned brass lugs, spaced on 7/16" centers. Cadmium-plated steel screw, 6-32 x 3/8".

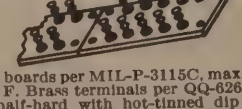


Terminal Board — Shorting Link

H.H.S. No.	Ter-minals	Mtg. Centers	Net per C
914	1	7/8"	$19.81
872	2	1 7/16"	22.02
873	3	1 15/16"	30.83
874	4	2 7/16"	40.74
875	5	2 15/16"	48.44
876	6	3 7/16"	56.15
877	7	3 15/16"	64.96
928	8	4 7/16"	74.87
929	9	4 15/16"	82.58
930	10	5 7/16"	92.49

H. H. Smith No. 878 Shorting Link—Net per 100..... **$3.00**

SCORED TERMINAL BOARDS SNAP-APART TERMINATION



PBE boards per MIL-P-3115C, max. temp. 250° F. Brass terminals per QQ-626 comp. 22, half-hard with hot-tinned dip solder finish per MIL-F-14072, Type 221. Mtg. holes .120" diam. Boards 13/16" long; ter-minals spaced 3/8".

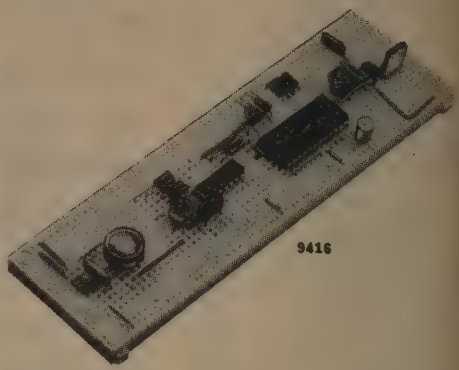
H.H.S. No.	Width	Term. Row Spacing	No. of Terms.	Net Each
2810	1/2"	*	25	$3.55
2811	1 1/2"	1"	50	7.09
2812	2"	1 1/2"	50	7.68
2813	2 1/2"	2"	50	8.28
2814	3"	2 1/2"	50	8.87

*Single row.

H. H. Smith Prototyping Aids

BRED BLOX AND BRED STIX

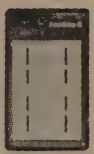
Bred Blox have two separated rows of five interconnected contacts each. The median separates the rows by .300", the minimum DIP spacing. Therefore, each pin of a DIP (or other component) inserted in the strip will have four additional tie points per pin in which to insert connecting wires or components. They accept leads and wires up to .032" diam. Interconnections are readily made with #22 AWG solid wire. All contact sockets are on a .100" square grid. Blox are 1⅜" wide. Bred Stix are buss strips to be used in conjunction with Bred Blox for distribution of power and common signal lines. They consist of two separate rows of common terminals, grouped into clusters of five. Lengths match the four most common multiple IC Bred Blox to provide common power and signal distribution for all IC's. All contact sockets are separated by .100". Bred Stix are ⅝" wide, Both Bred Blox and Bred Stix are made of Delrin plastic with nickel silver contacts for long life. Snap-Plugs, supplied with each unit, snap the entire block onto any base plate drilled with matching ⅛" holes. For thick plate mounting, #4 or #6 flat head screws may be used.

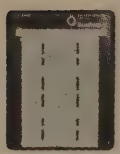


H. H. Smith Number	No. of Jacks	Length Inches	Net Each
BRED BLOX			
9410	70	1⅝	$ 2.48
9411	80	1⅞	2.75
9412	120	1 13/16	3.30
9413	180	2 9/16	4.40
9414	370	4⅝	6.60
9415	470	5⅝	8.80
9416	590	6½	11.00
BRED STIX			
9403	30	2⅝	$0.83
9404	60	4⅝	1.38
9405	80	5⅝	1.65
9406	100	6½	2.20

BREDBORD KITS

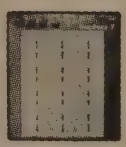

BREDBORD 1

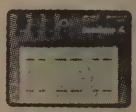

BREDBORD 2


BREDBORD 5


BREDBORD 6


BREDBORD 3


BREDBORD 7


BREDBORD 4


BREDBORD 8

Bred Bords are supplied in easy-to-assemble kit form for low cost and maximum flexibility of use. All Bredbords fit directly on standard Smith meter cases to allow the addition of power supplies, clocks, level switches, etc. Color-coded binding posts (one connected to the ground plane) allow interface to meters, scopes and other devices. BredBords are built on heavy duty glass-epoxy boards, insulated and screened on top, with copper ground plane below. Each kit is supplied complete with all parts and hardware, including Snap-Mount pins, and assembly instructions.

BREDBOARD 1

Provides 630 test points consisting of 94 separate 5-point terminals, plus 4 buss lines of 40 common test points each. Will accept up to six 14-pin or five 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 6" wide by 3½" long, and fits Smith No. 2255 meter case. Kit contains one No. 9415 Bred Blox and two No. 9405 Bred Stix.

Smith No. 9420—Net Each.....**$15.00**

BREDBORD 2

Provides 800 test points consisting of 148 separate 5-point terminals, plus 2 buss lines of 30 common test points each. Will accept up to ten 14-pin or eight 16-pin IC's. Two binding posts are coded red and black. Board measures 3½" wide by 6" long, and fits Smith No. 2255 meter case. Kit contains two No. 9414 Bred Bloxs and one No. 9404 Bred Stix.

Smith No. 9421—Net Each.....**$18.60**

BREDBORD 3

Provides 980 test points consisting of 148 separate 5-point terminals, plus 6 vertical and 2 horizontal buss lines of 30 common test points each. Will accept up to ten 14-pin or eight 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 5" wide and 6½" long, and fits Smith No. 2257 meter case. Kit contains two No. 9414 Bred Blox and four No. 9404 Bred Stix.

Smith No. 9422—Net Each.....**$21.00**

BREDBORD 4

Provides 1020 test points consisting of 188 separate 5-point terminals, plus 2 buss lines of 40 common test points each. Will accept up to twelve 14-pin or ten 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 6½" wide by 5" long, and fits Smith No. 2257 meter case. Kit contains two No. 9415 Bred Blox and one No. 9405 Bred Stix.

Smith No. 9423—Net Each.....**$24.00**

BREDBORD 5

Provides 1240 test points consisting of 188 separate 5-point terminals, plus 6 vertical buss lines of 40 common test points each and 2 horizontal buss lines of 30 common test points each. Will accept up to twelve 14-pin or ten 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 5" wide by 6½" long, and fits Smith No. 2257 meter case. Kit contains two No. 9415 Bred Blox and three No. 9405 Bred Stix.

Smith No. 9424—Net Each.....**$30.00**

BREDBORD 6

Provides 1810 test points consisting of 282 separate 5-point terminals plus 8 vertical and 2 horizontal buss lines of 40 common test points each. Will accept up to eighteen 14-pin or fifteen 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 7½" wide by 8½" long, and fits Smith No. 2289 meter case. Kit contains three No. 9415 Bred Blox and five No. 9405 Bred Stix.

Smith No. 9425—Net Each.....**$39.00**

BREDBORD 7

Provides 2330 test points consisting of 354 separate 5-point terminals plus 8 vertical buss lines of 50 common test points each and 4 horizontal buss lines of 40 common test points each. Will accept up to twenty-four 14-pin or twenty-one 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 7½" wide by 8½" long, and fits Smith No. 2289 meter case. Kit contains three No. 9416 Bred Blox, four No. 9406 Bred Stix and two No. 9405 Bred Stix.

Smith No. 9426—Net Each.....**$45.00**

BREDBORD 8

Provides 3060 test points consisting of 472 separate 5-point terminals plus 10 vertical and 4 horizontal buss lines of 50 common test points each. Will accept up to thirty-two 14-pin or twenty-eight 16-pin IC's. Four binding posts are coded black, red, green and yellow. Board measures 7½" wide by 8½" long, and fits Smith No. 2289 meter case. Kit contains four No. 9416 Bred Blox and six No. 9406 Bred Stix.

Smith No. 9427—Net Each.....**$51.00**

H. H. Smith Hardware

MACHINE SCREWS

CADMIUM-PLATED STEEL

C-PAK H.H.S. No.	Net	Size	M-PAK H.H.S. No.	Net
73C	$1.93	2-56 x 1/4"	1173M	$17.67
74C	2.05	2-56 x 1/2"	1174M	18.78
75C	2.42	2-56 x 3/4"	1175M	22.09
76C	2.42	3-48 x 3/4"	1176M	22.09
77C	1.93	4-36 x 1/4"	1177M	17.67
78C	2.05	4-36 x 1/2"	1178M	18.78
83C	2.17	4-36 x 1/2"	1183M	19.88
84C	2.42	4-36 x 5/8"	1184M	22.09
85C	2.55	4-36 x 3/4"	1185M	23.20
50C	1.93	4-40 x 1/4"	1350M	17.67
51C	2.05	4-40 x 1/2"	1351M	18.78
52C	2.17	4-40 x 1/2"	1352M	19.88
53C	2.29	4-40 x 5/8"	1353M	20.99
54C	2.42	4-40 x 3/4"	1354M	22.09
00C	1.69	6-32 x 1/4"	1000M	15.47
01C	1.82	6-32 x 3/8"	1001M	16.57
02C	1.93	6-32 x 1/2"	1002M	17.67
55C	2.05	6-32 x 5/8"	1355M	18.78
56C	2.17	6-32 x 3/4"	1356M	19.88
57C	2.29	6-32 x 1"	1357M	20.99
58C	4.24	6-32 x 2"	1358M	38.67
06C	2.29	8-32 x 1/4"	1006M	20.99
07C	2.42	8-32 x 3/8"	1007M	22.09
08C	2.55	8-32 x 1/2"	1008M	23.20
10C	2.67	8-32 x 5/8"	1010M	24.30
59C	2.91	8-32 x 3/4"	1359M	26.51
71C	3.65	10-32-1/4"	1271M	33.14
60C	3.03	10-32 x 1/2"	1360M	27.61
61C	3.38	10-32 x 3/4"	1361M	30.94
62C	3.65	10-32 x 1"	1362M	33.14

NICKEL-PLATED BRASS

044C	$3.38	4-36 x 1/4"	1044M	$30.94
045C	3.76	4-36 x 3/8"	1045M	34.25
046C	4.24	4-36 x 1/2"	1046M	38.67
047C	3.32	4-40 x 1/4"	1047M	30.94
048C	3.76	4-40 x 3/8"	1048M	34.25
049C	4.24	4-40 x 1/2"	1049M	38.67
050C	4.24	6-32 x 1/2"	1050M	38.67
051C	4.48	6-32 x 3/4"	1051M	40.87
052C	4.86	6-32 x 1"	1052M	44.19
056C	6.34	8-32 x 1/4"	1056M	57.45
057C	6.67	8-32 x 3/8"	1057M	60.76
058C	7.29	8-32 x 1/2"	1058M	6.28

BINDING HEAD MACHINE SCREWS

CADMIUM-PLATED STEEL

369C	$1.93	2-56 x 1/4"	1369M	$17.60
370C	2.05	2-56 x 1/2"	1370M	18.78
371C	2.42	2-56 x 3/4"	1371M	22.09
272C	1.93	3-48 x 1/4"	1272M	17.67
372C	2.42	4-40 x 1/4"	1372M	22.09
373C	2.55	4-40 x 1/2"	1373M	23.20
374C	2.79	4-40 x 3/4"	1374M	25.40
273C	2.05	6-32 x 1/8"	1273M	18.78
375C	2.17	6-32 x 3/16"	1375M	19.88
425C	2.29	6-32 x 1/4"	1425M	20.99
426C	2.42	6-32 x 5/16"	1426M	22.09
427C	2.55	6-32 x 1/2"	1427M	23.20
376C	2.67	6-32 x 5/8"	1376M	24.30
377C	2.79	6-32 x 3/4"	1377M	25.40
428C	2.17	8-32 x 1/4"	1428M	19.88
378C	2.29	8-32 x 5/16"	1378M	20.99
429C	2.42	8-32 x 3/8"	1429M	22.09
430C	2.67	8-32 x 1/2"	1430M	24.30
379C	2.91	8-32 x 3/4"	1379M	26.51
380C	2.55	10-32 x 1/2"	1380M	23.20
381C	2.79	10-32 x 3/4"	1381M	25.40

OVAL HEAD RACK SCREWS

NICKEL-PLATED STEEL

1382C	$2.79	6-32 x 3/4"	1382M	$25.40
1383C	3.38	8-32 x 3/4"	1383M	30.94
1111C	3.51	10-32 x 1/2"	1111M	32.04
1112C	4.86	10-32 x 3/4"	1112M	44.19

NYLON HEX NUTS

Natural color; per MIL-P-20693A. Std. package, 100.

H.H.S. No.	Size	Net per 100
2554	4-40 x 1/4"	$10.84
2555	6-32 x 5/16"	10.84
2556	8-32 x 11/32"	10.84
2557	10-32 x 3/8"	10.84

NYLON SCREWS

A B C

Natural color; per MIL-P-20693A.

Size	H. H. Smith No. Fig. A	Fig. B	Fig. C	Net per C
4-40 x 1/4"	2500	2520	2580	$6.03
4-40 x 3/8"	2501	2521	2581	6.03
4-40 x 1/2"	2502	2522	2582	6.03
6-32 x 1/4"	2503	2523	2583	6.03
6-32 x 3/8"	2504	2524	2584	6.03
6-32 x 1/2"	2505	2525	2585	6.03
6-32 x 5/8"	2506	2526	2586	6.03
6-32 x 3/4"	2507	2527	2587	6.03
8-32 x 1/4"	2509	2529	2589	6.03
8-32 x 3/8"	2510	2530	2590	6.03
8-32 x 1/2"	2511	2531	2591	6.03
8-32 x 5/8"	2512	2532	2592	6.03

HEXAGON NUTS

Standard package, 100.

NICKEL-PLATED BRASS

C-PAK H.H.S. No.	Net	Size	M-PAK H.H.S. No.	Net
1326C	$1.93	2-56 x 3/16"	1326M	$17.67
1327C	1.93	3-48 x 3/16"	1327M	17.67
1188C	2.17	4-36 x 1/4"	1188M	19.88
1168C	2.17	4-40 x 1/4"	1168M	19.88
1189C	2.17	6-32 x 1/4"	1189M	19.88
1190C	2.91	6-32 x 5/16"	1190M	26.51
1328C	2.17	8-32 x 1/4"	1328M	19.88
1192C	2.91	8-32 x 5/16"	1192M	26.51
1193C	2.91	10-32 x 5/16"	1193M	26.51

CADMIUM-PLATED STEEL

1363C	$1.82	2-56 x 3/16"	1363M	$16.57
1364C	1.82	3-48 x 3/16"	1364M	16.57
1398C	1.82	4-36 x 1/4"	1398M	16.57
1365C	1.82	4-40 x 1/4"	1365M	16.57
1179C	1.82	6-32 x 1/4"	1179M	16.57
1180C	1.82	6-32 x 5/16"	1180M	16.57
1366C	2.05	8-32 x 1/4"	1366M	18.78
1181C	2.05	8-32 x 5/16"	1181M	18.78
1367C	2.91	10-32 x 3/8"	1367M	26.51
1368C	4.24	1/4-20 x 7/16"	1368M	38.67
1186C	2.17	1/4-32 x 3/8"	1186M	19.88

VOLUME CONTROL AND SWITCH NUTS

NICKEL-PLATED BRASS

C-PAK H.H.S. No.	Net	Size	M-PAK H.H.S. No.	Net
1329C	$6.67	1/4-20 x 7/16" x 3/16"	1329M	$60.76
1243C	3.03	1/4-28 x 3/8" x 3/32"	1243M	27.61
1244C	3.27	1/4-28 x 3/8" x 1/8"	1244M	29.83
1245C	2.79	1/4-32 x 5/16" x 5/64"	1245M	25.40
1187C	3.27	1/4-32 x 3/8" x 3/32"	1187M	29.83
1256C	4.86	5/16-32 x 7/16" x .101"	1255M	44.19
1195C	3.51	1/2-32 x 1/2" x 3/32"	1195M	32.01
1199C*	3.03	1/2-32 x 1/2" x 3/32"	1199M*	27.61
1258C	4.24	1/2-32 x 9/16" x 5/64"	1258M	38.67
1196C	3.65	15/32-32 x 9/16" x 5/64"	1196M	33.14
1260C	4.00	15/32-32 x 5/16" x 3/32"	1260M	36.46

*Cadmium-plated steel.

RING NUTS

NICKEL-PLATED BRASS

1120C	$7.29	1/2-32 x 1/2" x 3/32"	1120M	$66.25
1197C	7.29	15/32-20 x 5/16" x 1/16"	1197M	66.25

DRESS NUT

NICKEL-PLATED BRASS

1198C	24.30	15/32-32 x 5/16" x 3/32"	1198M	220.95

ROUND LOCK NUTS

NICKEL-PLATED BRASS

C-PAK H.H.S. No.	Net	Size	M-PAK H.H.S. No.	Net
1240C	$4.24	1/4P x 5/16" x 3/32"	1240M	$38.67
1241C	8.50	1/8 x 3/4" x 3/32"	1241M	77.33

HEX LOCK NUT

1242C	$4.24	1/4P x 1/4" x 1/8"	1242M	$38.67

KNURLED THUMB NUTS

NICKEL-PLATED BRASS

1313C	$6.07	6-32 x 3/8"	1313M	$55.10
1314C	8.50	8-32 x 7/16"	1314M	77.20
1315C	9.72	10-24 x 1/2"	1315M	88.30
1316C	9.72	10-32 x 1/2"	1316M	88.30
1317C	14.58	1/4-20 x 5/8"	1717M	132.50

CAP NUTS

NICKEL-PLATED BRASS

C-PAK H.H.S. No.	Net	Thd.	Hex, Ins.	M-PAK H.H.S. No.	Net
1300C	$6.07	6-32	5/16	1300M	$55.24
1301C	6.07	8-32	5/16	1301M	55.24
1302C	7.29	10-32	3/8	1302M	66.28
1303C	9.10	1/4-20	7/16	1303M	82.86
1304C	11.53	1/4-20	1/2	1304M	104.94
1305C	9.10	1/4-28	7/16	1305M	82.86
1306C	15.79	5/16-18	9/16	1306M	143.61
1307C	20.65	3/8-16	5/8	1307M	187.81
1308C	20.65	3/8-24	5/8	1308M	187.81

CADMIUM-PLATED TOOTH LOCKWASHERS

Internal External

INTERNAL TYPE STEEL

C-PAK H.H.S. No.	Net	Size	M-PAK H.H.S. No.	Net
1118C	$1.21	#2	1118M	$11.05
1119C	1.21	#3	1119M	11.05
1127C	1.21	#4	1127M	11.05
1128C	1.21	#6	1128M	11.05
1129C	1.21	#8	1129M	11.05
1130C	1.21	#10	1130M	11.05
1132C	1.82	1/4"	1132M	16.57
1131C	2.91	5/16"	1131M	26.51
1145C†	2.42	3/8"	1145M†	22.09
1146C†	3.03	15/32"	1146M†	27.61

†Narrow rim.

EXTERNAL TYPE—STEEL

1139C	$1.21	#4	1139M	$11.05
1140C	1.21	#6	1140M	11.05
1141C	1.21	#8	1141M	11.05
1142C	1.21	#10	1142M	11.05
1144C	1.82	1/4"	1144M	16.57
1143C	2.91	5/16"	1143M	26.51

NICKEL-PLATED WASHERS

Flat Countersunk

FLAT TYPE STEEL

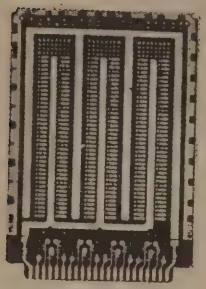
1138C	$1.21	#2 screw	1138M	$11.05
1149C	1.21	#4 screw	1149M	11.05
1150C	1.21	#6 screw	1150M	11.05
1151C	1.21	#8 screw	1151M	11.05
1152C	1.21	#10 screw	1152M	11.05
1147C	1.21	1/4" screw	1147M	11.05
1148C	1.21	5/16" screw	1148M	11.05

COUNTER-SUNK TYPE BRASS

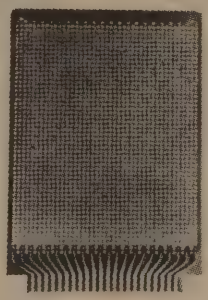
1115C	$2.42	#6	1115M	$22.09
1116C	2.55	#8	1116M	23.20
1117C	2.67	#10	1117M	24.30

Vector Plugbords®

DIP PLUGBORDS



3677-2

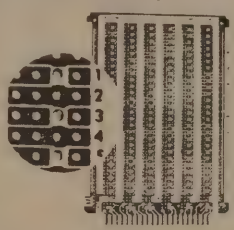


3662

Plugbord material is epoxy glass or FR4 glass composite material, except models with WE suffix are made only in epoxy glass. Contacts on all models are gold flashed nickel plate. **3682 Series:** Mount wrap post sockets. Have interleaved etched tinned power and ground buses, punched .042″ holes on 0.1″ x 0.1″ grid. -4 model has O/A etched tinned ground plane with etched clearance area on each hole. **3662 and 3719 Series:** Upper area is copper free and punched with .042″ holes on 0.1″ x 0.1″ grid. **3677 Series:** Have etched 3-hole tinned pads and interleaved buses for Vcc and ground, punched .042″ holes on 0.1″ x 0.1″ grid, holds 24 14-pin or 21 16-pin DIP's. **4112 Series:** Have punched .042″ holes on 0.1″ x 0.1″ grid, groups of 3-hole etched, tinned pads, interleaved zig-zag bus, back side tinned ground plane with etched clearance holes. Ideal for soldered circuits mixing any size DIP's, transistors or discretes. **4066 Series:** Ideal for wrapped wire construction. Has O/A punched .042″ holes on 0.1″ x 0.1″ grid, two interleaved tinned zig-zag buses plus back side tinned ground plane with etched clearance holes. **4493 and 4494 Series:** Have universal bus pattern for any DIP with leads on 0.1″ x 0.3″, 0.4″, 0.6″ or 0.9″ centers plus option zone to mount included heat sink, and 2 regulators (not included) or conventional DIP's.



4493DP



4494DP

Vector No.	Contacts	Spacing In.	Plugbord Type	Size, In.	Receptacle	Net Each
3677	44	.156	Solder	4.5 x 9.6	R644	$13.33
3677-2	44	.156	Solder	4.5 x 6.5	R644	11.75
3682	44	.156	W.W.	4.5 x 9.6	R644	13.63
3682-2	44	.156	W.W.	4.5 x 6.5	R644	11.54
3682-4	44	.156	W.W.	4.5 x 6.5	R644	13.19
3662	44	.156	Plain	4.5 x 6.5	R644	9.96
3662-2	44	.156	Plain	4.5 x 9.6	R644	10.85
3662-5	44	.156	Plain	4.5 x 4.5	R644	7.68
3719-1	72	.100	Plain	4.5 x 6.5	R636-1	9.74
3719-4	72	.100	Plain	4.5 x 9.6	R636-1	12.00
3719-5	72	.100	Plain	4.5 x 4.5	R636-1	10.29
849PWE	35*	.....	Plain	4.5 x 6.5	R635	16.98
3797	30	.....	Plain	2.73 x 4.5	R630	6.56
3797-2	30	.....	Solder	2.73 x 4.5	R630	9.71
4112-4	44	.156	Solder	4.5 x 6.5	R644	15.55
4112-5	44	.156	Solder	4.5 x 4.5	R644	12.49
4066-4	36/72	.100	W.W.	4.5 x 6.5	R636-1	13.18
4066-5	36/72	.100	W.W.	4.5 x 4.5	R636-1	19.40
4493	36/72	.100	W.W.	4.5 x 6.5	R636-1	19.37
4493-1	36/72	.100	W.W.	4.5 x 9.6	R636-1	23.83
4494	44	.156	W.W.	4.5 x 6.5	R644	16.01
R636-1‡	72	.....	Receptacle	4.44 x .34 x .610		7.13
R644ƒ	44	.....	Receptacle	4.36 x .34 x .442		4.78
R644-1‡	44	.....	Receptacle	4.36 x .41 x .730		7.70
R644-2‡	44	.....	Receptacle	3.16 x .37 x .625		4.91
R644-3‡	44	.....	Receptacle	4.36 x .41 x .550		4.66
R630ƒ	30	.....	Receptacle	3.27 x .34 x .442		6.18

*Elco Varicon contacts. ƒHas solder tabs. ‡0.025″ sq. wire wrap tail model.

DISCRETE PLUGBORDS

Prepunched .062″ holes on alternate 0.1″ centers. Contacts are nickel/gold.

Vector No.	Type	Contacts	Size, In.	Net Each
838A	Epoxy paper, 1 side	22 etched	4½ x 6½	$ 5.67
838AWE-1GN	Epoxy glass, 2 sides	43 etched	4½ x 6½	11.38

CIRCBORDS



8001



8002

Popular etched plugbord wiring patterns without expensive fin contacts have universal I/O area for mounting any type of c nector. Epoxy glass composite material etched and tinned one s (except 8005). Measure 4.5″ x 6.5″ x .062″.

Vector No. 8003—Pad-per-hole-Quick solder mounting of 60 16-p DIP's. Net Each..... $9.

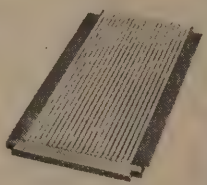
Vector No. 8004—Clearance ground planemounts 50 16-pin DI compact or 40 16-pin DIP's spaced or mixed. Net Each . $9.

Vector No. 8005—Bare, unclad. Mounts 60 16-pin DIP's compa or 48 16-pin DIP's spaced or mixed. Net Each..... $3.2

Vector No. 8001—3-hole pads and 2 buses for soldering and w wrapping. Mounts twenty 16-pin DIP's. Net Each..... $9.9

Vector No. 8002—Has 2 buses. Best for wire wrapping. Mounts 16-pin DIP's. Net Each..... $9.

CARD EXTENDERS



Provide means of working on opera ing Plugbord by providing extensio to raise Plugbord out of equipme Supplied with nickel plated, go plated contacts and mounted rece tacles.

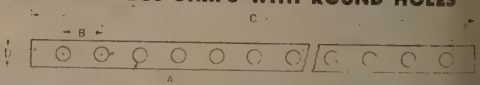
Vector No.	For Plugbord Series	Size (Ins.)	Ne Eac
3690	838, 3662, 3677, 3682	4.5″ x 6.5″	$15.
3690-2	3719	4.5″ x 11″	24.
3690-10	3797	2.73″ x 5.5″	22.
3690-12	8800 V	9.99″ x 7.5″	26.
3690-16	4610	4.5″ x 6.5″	21.

SOLDERLESS BUS KLIPS/STRIPS

Accept round component leads .015″ to .032″ dia. or .025″ s pins. Single continuous interior beryllium copper contact spri with fused tin-lead coating is housed in brass shell with insulat sides. Available with or without riveted .042″ dia., .285″ long pi which fit .042″ dia. holes.

Vector No.	No. of Holes	No. of Mtg. Pins	Mtg. Pin Spacing	Qty. per Pkg.	Net per Pkg
WITH MOUNTING PINS					
T45-24	24	3	.800″	2	$2.74
T45-48	48	6	.800″	2	5.66

PUNCHED BUS STRIPS WITH ROUND HOLES

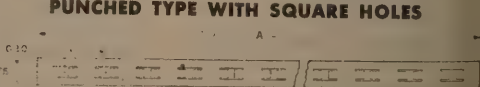


Install on circuit boards as alternative to etched bus lines. Hole accept various terminals made by Vector and some models accep IC socket tails.

Vector No.	Dimensions A	B	C	D	Material Thickness	Net per 10
T57	.093″	.265″	16″	.200″	.015″	$ 3.13
T58	.093″	.265″	8″	.200″	.015″	1.85
T104	.062″	.200″	17″	.125″	.012″	19.30*
T107	.047″	.100″	14″	.080″	.017″	40.12*
T107-3	.047″	.100″	3.5″	.080″	.017″	1.78

*Net per 100.

PUNCHED TYPE WITH SQUARE HOLES



T112 Series—Use short versions as grounding clips between .025 square posts and PC board circuitry. Install by hand and use P133A tool to push down and wrap post. Resilient fingers hold part on post until soldered. Use long versions for busing groups of .025″ square posts.

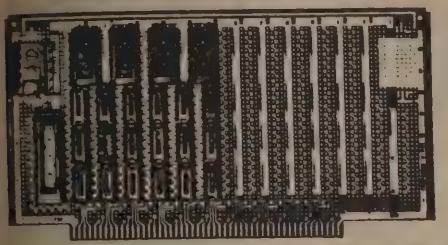
Vector No.	Dimensions A	B	No. of Holes	Qty. per pkg.	Net per Pkg.
T112	12.0″	0.1″	120	1	$1.05
T112-1	0.2″	.....	1	100	1.93
T112-2	0.3″	.....	1	100	2.15
T112-3	12.0″	0.2″	60	1	1.05
T112-4	12.0″	0.3″	40	1	1.05

Material: Beryllium copper, .007″ thick with tin plating.

QUANTITY PRICES AVAILABLE ON REQUEST

Vector Microcomputer Support Products

PLUGBORDS FOR S100 SYSTEMS



unt DIP devices anywhere on Plugbords in pre-punched 42" dia. holes. Have 100 contacts (50 each side on 0.125" ters). Heavy tinned buses back-to-back provide good distrib- d capacitance. Fit all S100 and IEEE 696 systems. 10" wide x 13" high. Furnished with one heat sink, two regulator positions, pre-wired. Install wrap post sockets and wire.

ctor No. 8800V—With buses. Net Each..... **$22.48**

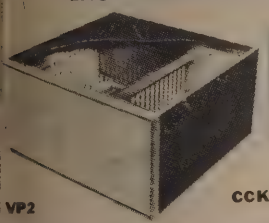
ctor No. 8801-1—With edge contacts, no buses. t Each..... **$15.67**

ctor No. 8800R2—Coated both sides with copper and positive otoresist. Gold plated contacts continuous into copper fields on th sides. Make your own custom S100 board. Complete step- -step instructions. Net Each..... **$23.99**

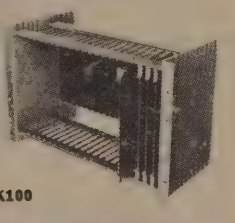
ctor No. 8804—Board for all DIPs with 0.3", 0.4", 0.6" and " lead spacing. Net Each..... **$24.67**

ctor No. 8801—Pad-per-hole board. Mounts wrap or solder tail mponents everywhere on board. Net Each..... **$23.12**

ENCLOSURES FOR S100 SYSTEMS



VP2



CCK100

ssembled enclosure with interior mounting system for cards, nnectors and power supply. Blue vinyl finish. Slide-off top and ttom side panels. Easily removed front and rear clear anodized anels. Supplied with 12 pairs of adjustable plastic card guides, sitioned to accept top-down inserted S100 standard cards (5.3" 10"), chassis mounting plate, adjustable connector mounting ckets and rear input/output connector panel for 10 ITT Cannon 25S connectors. Symmetrical mounting holes allows connector touts either end. Two models listed; other sizes and models vailable for modules or rack mounting, and with slope fronts, in l different colors.

ector No. VP1—17.58" w. x 17.1" d. x 9.01" h., with slots running erpendicular to front panel. Net Each..... **$171.00**

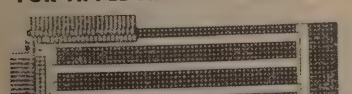
ector No. VP2—Same as above, but with card slots running arallel to front panel. Net Each..... **$166.95**

ector No. 8803—S100 mother board with 11 positions, ready for onnectors with solder masked etched circuitry. Net Ea. **$31.57**

tack mountable cage is especially designed to accommodate S100 ize plugboards. Cage measures 19" wide x 12.2" high x 8.9" deep. age has .081" thick anodized aluminum side walls with flanges ith mounting holes in accordance with EIA standard, handle oles, and extruded aluminum cross members with holes for snap- n nylon guides (furnished). Rear pair of mounting struts adjust our ways and accommodate mounting of a mother board or con- nectors without hole drilling or special hardware. Will accom- nodate plugboards 5.313" to 6.5" long and 10" to 11.5" wide. Cage assembles quickly, and furnished guides can be positioned n multiples of 0.25".

Vector No. CCK100 Rack Mounting Cage—With added recep- acles and plugboards. Net Each..... **$51.79**

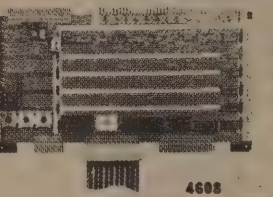
FOR APPLE AND SUPERKIM SYSTEMS



4609

Vector No. 4609—Compatible with Apple II™, Pet Commodore™ with Expandamem™, Super-Kim™. Extra I/O edge connector. Gold plated contacts. Extended 7.7" for 1.9 sq. in. extra area without interference. .042" dia. holes on 0.1" grid. Net Each..... **$23.00**

FOR MULTIBUS SYSTEMS



4608

CCK80

Vector No. 4608—Compatible with Intel SBC80 and National BLC80 series. Mounts 54 16-pin DIP's and any size DIP wherever required in .042" holes on 0.1" x 0.1" grid. Dual bus pattern under DIP's permits easy power and ground connections. Has 43/86 contacts on .156" centers and 30/60 nickel plated gold flashed contacts on .100" centers along bottom edge plus 3 sets of I/O connector fingers at top. Overall size, 6.75" long x 12" wide. Net Each..... **$59.23**

Vector No. 4608-1—Same as 4608, except without bus pattern. Net Each..... **$40.02**

Vector No. CCK80—Rack mountable cage for Plugbords above and 4611 Plugbords listed below. Measures 8.75" h. x 12" d. x 19" w. Assembled with 10 pairs of adjustable guides. Net Ea.. **$82.16**

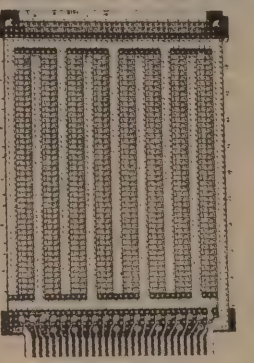
FOR MOTOROLA EXORCISER™ SYSTEMS

Bus terminations per Motorola standard. 43/86 contacts on 0.156" centers. 0.042" diameter holes on 0.1" grid. Measure 6" x 9.75".

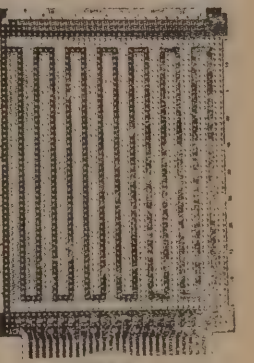
Vector No. 4611—With buses and pads for soldering or wire wrapping. Net Each..... **$29.95**

Vector No. 4611-1—With edge contacts, but no buses. Net Each..... **$19.95**

Vector No. 4611-2—For wire wrapping. Net Each..... **$29.95**



4610



4610-2

Vector No. 4610—Compatible with STD BUS Pro-Log Micro-computer and general use. 4.5" x 6.5" x .062". 28/56 gold plated contacts on 0.125" center. .042" dia. holes on 0.1" grid. Net Each..... **$18.95**

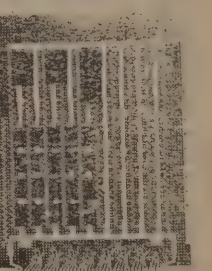
Vector No. 4610-1—With edge contacts; no busses. Net Each..... **$15.95**

Vector No. 4610-2—Wire wrapping board. Ground bus terminated per STD BUS convention. Net Each..... **$18.95**

FOR DEC AND T1980 SYSTEMS



4607



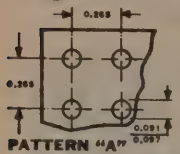
4350

Vector No. 4607—Compatible with DEC LSI11, PDP8 and PDP11 and Heath H-11 computers. Main area of board is copper free for maximum component mounting flexibility in .042" holes on 0.1" grid. Has two sets etched contacts, 18/36 on 0.125" centers and holds 89 16-pin DIP's or any size DIP. Overall size, 8.43" long x 5.19" wide. Net Each..... **$17.07**

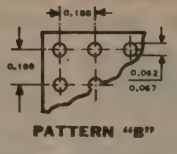
Vector No. 4350—Compatible with TI980 computer. Epoxy glass composite 9.6" long x 7" w. x 1/16" thick. Has 80 (40 each side) nickel gold contacts on 0.125" centers. Heavy back-to-back tinned copper buses. .042" dia. holes on 0.1" grid. Net Ea..... **$23.94**

Apple II is a trademark of Apple Computer, Inc.; Pet Commodore is a trademark of Commodore Business Machines; Superkim is a trademark of Microproducts; Expandamem is a trademark of Compu/Think; Exorciser is a Motorola trademark.

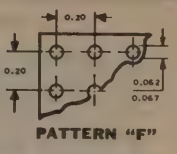
Vector Terminals and Tools



PATTERN "A"



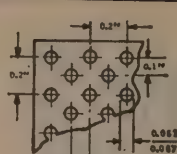
PATTERN "B"



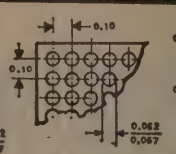
PATTERN "F"

Vectorbord and Micro-Vectorbord are made from flame-retardant materials and precision punched in a variety of materials and hole patterns. Materials used are phenolic; type PBE-P per L-P-513, NEMA grade FR 2, copper clad phenolic in 1 oz. NEMA FR 2; paper epoxy per MIL-P-22324 type PEE NEMA grade FR 3; copper clad epoxy paper type FL-PX per MIL-P-13949

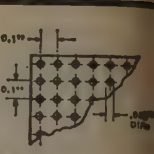
Vector No.	Hole Pattern	Size, Inches W x L x Th.	Net Ea., Lots of 1-19	20-99	100-199
GLASS COMPOSITE					
42G24WE	G	4.80 x 8.51 x 1/16	$2.49	$2.24	$1.99
59P44-032	P	4.50 x 6.00 x 1/32	1.85	1.67	1.48
64A18WE	A	4.80 x 16.99 x 1/16	5.36	4.82	4.29
64P44	P	4.50 x 6.50 x 1/16	1.83	1.65	1.46
84P44	P	4.50 x 8.50 x 1/16	2.25	2.03	1.80
85G24WE	G	4.80 x 16.99 x 1/16	5.50	4.95	4.40
169P44	P	4.50 x 17.00 x 1/16	5.15	4.64	4.12
169P59-047	P	6.00 x 17.00 x 1/16	7.12	6.41	5.70
169P79	P	8.00 x 17.00 x 1/16	7.71	6.94	6.17
169P84	P	8.50 x 17.00 x 1/16	9.00	8.10	7.20
169P84C1*	P	8.51 x 17.00 x 1/16	11.04	9.94	8.83
EPOXY PAPER					
64P44EP	P	4.50 x 6.50 x 1/16	$2.15	$1.94	$1.72
84P44EP	P	4.50 x 8.50 x 1/16	2.68	2.41	2.14
85F24EP	F	4.80 x 16.99 x 1/16	3.74	3.37	2.99
85G24EP	G	4.80 x 16.99 x 1/16	3.17	2.85	2.54
85G42EP	G	8.51 x 16.99 x 1/16	5.49	4.94	4.39
169P44EP	P	4.50 x 17.00 x 1/16	4.87	4.38	3.90
169P47EP	P	4.80 x 17.00 x 1/16	5.07	4.56	4.06
169P84EP	P	8.50 x 17.00 x 1/16	8.64	7.78	6.91



PATTERN "G"



PATTERN "H"



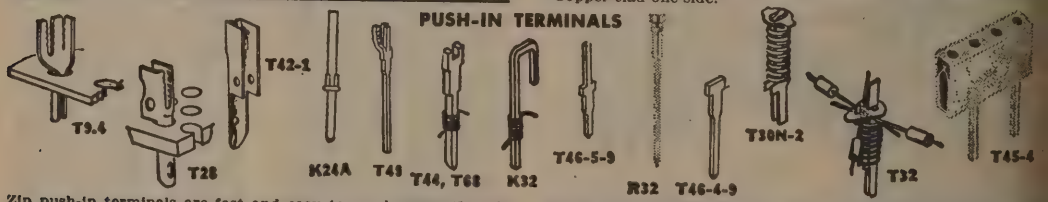
PATTERN "P"

NEMA grade FR 3; epoxy glass MIL-P-18177 type GEE NEMA FR 4 and G-10; copper clad epoxy glass MIL 13949 type FL-GE NEMA FR 4 and G-10. Glass composite is FR 4 grade. Boards accept push-in and wire wrappable terminals as shown, and many component leads without hole drilling.

Vector No.	Hole Pattern	Size, Inches W x L x Th.	Net Ea., Lots of 1-19	20-99	100-199
PHENOLIC					
32AA18	A	4.80 x 8.51 x 1/32	$1.92	$1.73	$1.54
45B30	B	5.69 x 16.97 x 1/16	1.64	1.48	1.31
64A18	A	4.80 x 16.99 x 1/16	1.99	1.79	1.59
64AA18	A	4.80 x 16.99 x 1/32	2.56	2.30	2.05
64AA32	A	4.80 x 16.99 x 1/32	4.37	3.93	3.50
64P44XXXP	P	4.50 x 6.50 x 1/16	1.56	1.40	1.25
90B30	B	5.69 x 16.97 x 1/16	3.59	3.23	2.87
EPOXY GLASS					
64P44WE	P	4.50 x 6.50 x 1/16	$2.22	$2.00	$1.78
84P44WE	P	4.50 x 8.50 x 1/16	2.74	2.47	2.19
85H48WE	H	4.80 x 8.50 x 1/16	2.65	2.39	2.12
169P44WE	P	4.50 x 17.00 x 1/16	5.40	4.86	4.32
169P44WEC1*	P	4.50 x 17.00 x 1/16	7.29	6.56	5.83
169P84WE	P	8.51 x 17.00 x 1/16	10.38	9.34	8.30
169P84WEC1*	P	8.50 x 17.00 x 1/16	12.72	11.45	10.18
170H48WE	H	4.80 x 17.00 x 1/16	5.86	5.27	4.69

*Copper clad one side.

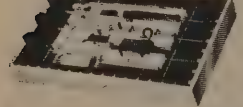
PUSH-IN TERMINALS



Zip push-in terminals are fast and easy to use because they fit prepunched holes in Vectorbord®, Micro-Vectorbord® and Plug-bords. Simple, listed hand tools firmly seat terminals to hold without staking. Slots or fingers in some models hold leads until soldered. Wire wrappable types have sharp-cornered, 0.025" square tails for reliable wire wrapping. Klip-Strip T45-4 accepts DIP leads or #22 gauge wire for solderless interconnections. T30 and T32 types hold up to 6 leads in solderless spring connection and are ideal for experimental terminals.

Vector No.	Fits Hole Size	Description	Material/ Plating	Overall Length Inches	Installing Tools: Manual	Installing Tools: P158 Die Point	Net /100	Net /1000
SOLDERABLE TYPES								
T9.4	.093"	Push-in	Brass/Tin	3/8	P122B	.....	$1.90	$14.06
T28	.062"	Push-in	Copper alloy/Tin	.437	P91A	.....	1.75	11.28
T42-1	.042"	Push-in	Copper alloy/Tin	.360	P149A	.....	1.75	11.28
K24A	.042"	Round pin	Phr. Brz./Gold	.375	.....	D7-2	3.23†	44.30
K24C	.042"	Round pin	Phr. Brz./Tin	.375	.....	D7-2	2.18†	23.82
WRAP-POST TYPES								
T44	.042"	.025" Sq.	Copper alloy/Tin	.690	A13	D-11	$ 2.34	$ 14.35
K32	.042"	.025" Sq.	Phr. Brz./Tin	.690	.....	.....	3.04	18.95
T49	.042"	.025" Sq.	Phr. Brz./Tin	.625	P156	D-8	3.29	26.90
T49A	.042"	.025" Sq.	Phr. Brz./Gold	.625	P156	D-8	6.72	59.09
T46-4-9	.042"	.025" Sq.	Phr. Brz./Tin	.460	.....	.....	2.77	17.76
T68A	.042"	.025" Sq.	Copper alloy/Tin	.800	A13-1	.....	2.67	16.05
T46-5-9	.042"	.025" Sq.	Phr. Brz./Tin	.880	P133B	.....	2.92	21.64
R32	.042"	.025" Sq.	Phr. Brz./Gold	.745	.....	D-9	23.08	215.54
SOLDERLESS TYPES								
T30N-2	.093"	Spring	Brass/Nickel	.906	P92A	.....	$22.01	$182.66
T32A	.093"	Spring	Brass/Nickel	1.250	P136	.....	28.70	228.40
T45-4	.042"	Klip-Strip	Phr. Brz./Tin	.555	P154-1A	.....	8.81*	48.57*

†Pkg. of 50. #Pkg. of 25. *Pkg. of 16. ■Pkg. of 100.



51X DIP PATCHBOARD

No soldering—Use ordinary #22 bare wire for interconnections—Fast

Flexible and adjustable. Handles microprocessor chips, MSI and LSI packages with .6" as well as .3" spaced leads. Accepts up to 12 DIP's. Includes 4½" x 8" epoxy glass composite "P" pattern Micro-Vectorbord® with printed registration mounted on a 1" high aluminum frame. Has eight 24-quad Klip-Bloks (T66-96); four 48-tie-point Klip-Buses (T45-48); three 5-way power binding posts installed; four Klip-Strips (T45-4); DIP marker strips for pin identification; adapter pins (T49-1) for large leads; complete instructions and application suggestions.

Vector No. 51X DIP Patchboard—Net Each.....**$39.93**

SPRING IMPACT TOOL FOR SEATING TERMINALS



Model P158 spring impact tool delivers an adjustable blow to easily drive in and seat Zip Push-In Terminals. Interchangeable die points (listed with their appropriate terminals above) deliver the force to the terminals and make terminal installation fast and easy. Order **P158-1** adapter to use P158 Tool in drill press or arbor press.

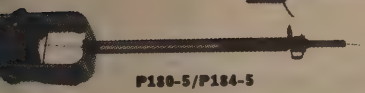
Vector No. P158 Impact Tool—Net Each.....**$24.25**
Vector No. P158-1 Press Adapter—Net Each..... **11.17**
Vector No. D-7 Die Point—Net Each..... **7.34**
Vector No. D-7-2 Die Point—Net Each..... **9.60**
Vector No. D-8 Die Point—Net Each..... **4.71**
Vector No. D-9 Die Point—Net Each..... **4.71**
Vector No. D-11 Die Point—Net Each..... **5.38**

Vector Wire Wrapping Tools ands PC Kits

SLIT-N-WRAP WIRING TOOLS FOR 0.025" SQUARE POSTS



P184-7 Turns Counter Model



P180-5/P184-5

Patented



P180-3/P184-3



Shows cross section on diagonal on left end and unwrapped wire on right.

28 gage

he Vector method uses polyurethane/nylon coated wire (P180) Tefzel coated wire (P184) fed from a spool mounted on the ol. The tool slits the insulation during wrapping, but not between raps. Four times faster than other manual wrapping techiques, minates cutting, measuring, stripping and permits daisy-chain rapping. Shorter length wrap posts may be used. Produces reli-le, gas-tight, low-resistance connections per MIL-STD-113A ragraph 5.6.

odels with wire gripper eliminate need to hand hold wire at art. All models supplied with wire tension regulator to reduce re breakage. Models with turns counter are available.

ector No. P180-1 Manual Wire Wrap Tool—With wire tension gulator. Supplied with two 100′ spools of wire.
et Each..... **$39.00**

ector No. P180-5 Manual Wire Wrap Tool—With wire tension gulator and wire gripper. Supplied with two 100′ spools of wire.
et Each..... **$44.00**

ector No. P180-2 Battery Powered Wrap Tool—With wire ten-on regulator and wire gripper. Supplied with nickel cadmium atteries, recharger, and two 100′ spools of wire.
et Each..... **$125.00**

ector No. P180-7 AC Powered Wrap Tool—With wire tension gulator, wire gripper, and turns counter. Supplied with two 100′ pools of wire. Net Each..... **$198.00**

ector No. 01—Replacement wrap bits for polyurethane wire.
et per package of 2..... **$21.20**

ector No. W28-2 Replacement Wire Spools—Package of three 00′ spools. Add suffix specifying color: **A,** green; **B,** red; **C,** clear; , blue. Net per package of 3..... **$3.53**

ector No. P184-1 Manual Wrap Tool—With wire tension regu-tor. Supplied with two 50′ spools of wire. Net Ea..... **$39.00**

ector No. P184-5 Manual Wrap Tool—With wire tension regu-tor and wire gripper. Supplied with two 50′ spools of wire.
et Each..... **$44.00**

ector No. P184-2 Battery Powered Wrap Tool—With wire ten-on regulator and wire gripper. Supplied with nickel cadmium atteries, recharger, and 300′ spool of wire. Net Ea... **$125.00**

ector No. P184-3 AC Powered Wrap Tool—With wire tension gulator and wire gripper. Supplied with AC transformer and 00′ spool of wire. Net Each..... **$125.00**

ector No. P184-7 AC Powered Wrap Tool—With wire tension gulator, wire gripper, and electronic turns counter. Supplied ith 300′ spool of wire. Net Each..... **$198.00**

ector No. W28-6 Replacement Wire Spools—Package of two 0′ spools. Add suffix specifying color: **A,** green; **B,** red; **D,** blue; , white; **F,** yellow; **H,** black. Net per package of 2..... **$5.67**

ector No. W28-6*S Replacement Wire Spools—One 300′ spool. eplace * in Part No. with color suffix as above. Net Ea.. **$15.73**

WIRING PENCIL

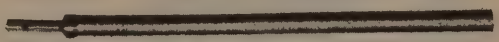
New P178-1 wiring pencil wires circuits three imes faster than conventional soldering or anual wrapped wire connections. Tool is used o guide and wrap heat-strippable insulated wire, fed off a self-contained, replaceable obbin, onto component leads or terminals. Connections are made by soldering. When heat s applied to junction points with soldering ron, the wire insulation melts, permitting the pplied solder to bond the junction.



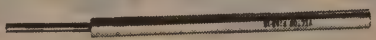
Vector No. P178-1 Wiring Pencil—Complete with 250-ft. spool each of red and green wire, hreading loop and instructions.
Net Each..... **$9.95**

Replaceable Wire—No. 36 wire with solder-hru insulation. Specify **No. W36-8A** for green; **W36-8B** for red; **W36-8C** for clear. Package of wo spools. Net per pkg..... **$4-13**

WRAP-N-STRAP WIRE WRAPPING TOOLS



Manual Wrapper P160-2B



Manual Unwrapper P160-1B

Vector tools for wrapping 0.025″ square posts provide high quality at minimum price. Wraps and unwraps either right or left hand wraps.

Vector No. P160-2B Manual Wrapping Tool—Wraps #26-30 AWG wire on 0.025″ square posts. Net Each..... **$ 8.50**

Vector No. P160-1B Manual Unwrapping Tool—Unwraps #26-30 AWG wire from 0.025″ square posts. Net Each..... **$12.50**



P160-4R4



P160-4R1

Electric motor powered driver tools for both standard and modified wrap joints per MIL-Std.-1130. Have wire grip feature to eliminate hand held wire at start.

Vector No. P160-4R4—110 VAC powered tool. Net Ea.. **$81.00**

Vector No. P160-4R5—DC model with nickel cadmium battery. Recharger included. Net Each..... **$81.00**

Driver Tools Only—Order Vector Wrap-N-Strap or Manual Slit-N-Wrap tools for installation in tools.

Vector No. P160-4R3 Driver Unit—For all Vector manual wire-wrapping tools. Portable field unit powered by self-contained, rechargeable Ni-Cad batteries. Includes recharger.
Net Each..... **$76.00**

Vector No. P160-4R1—Same as above, but powered by 110 VAC.
Net Each..... **$76.00**

32XA1 +POSITIVE PHOTOSENSITIZED ETCHED CIRCUIT KIT



Vector kits produce sharply detailed circuits with a minimum delay in the laboratory, shop or school. Kits are built around 1 oz. copper-clad laminate. U.V. light sensitive, resist-coated, copper-clad boards are included in kits, together with positive rub/transfer art work patterns for DIP's, transistors, lines, dots, block areas, connector patterns, etchant, developer, etching tray and Mylar. Make circuits on Mylar for single or multiple reproduction; directly on uncoated copper for one-of-a-kind.

ORDERING INFORMATION

Vector No. 32X1 Etched Circuit Kit—Contains 1 bare and 1 sensitized 4½″ x 6″, 1 oz., clad-one-side, 1/16″ thick, phenolic board; etching tray; ferric chloride etchant; developer; glass exposure plate; mask cutting film; tape; brush; razor knife; 4 sheets of rub/transfer art work; layout paper and instruction sheets.
Net Each..... **$18.24**

Vector No. 32XA1 Etched Circuit Kit—Contains larger assortment of materials described above plus total of seven 1 oz. copper-clad phenolic boards: 3 boards sensitized one side, 4½″ x 6½″, 8″ x 5.1″, 4.5″ x 2.73″; 2 boards sensitized two sides, 4½″ x 6½″, 4.5″ x 2.73″; 2 bare boards, 4½″ x 6½″, 4.5″ x 2.7″. Net Ea. **$46.41**

Vector No. 0088-21-15—1¼ oz. bottle of positive acting developer.
Net Each..... **$1.70**

Vector No. 0088-21-45—6 oz. bottle of positive acting developer.
Net Each..... **$2.57**

Vector No. R407—Rub transfer art work set; 4 sheets. Includes lines, donuts and IC and transistor pads.
Net per set..... **$2.99**

Vector No. CU65R45-1—Positive photoresist coated, phenolic boards. 6½″ x 4½″ x 1/16″. Net per pkg. of 5..... **$14.08**

waldom Knobs and Cases



FULL FLUTED KNOBS

Designed to meet the requirements of a variety of test equipment, custom-built radio equipment and specialized electronic components. Normally furnished in black phenolic, with brass inserts and a single slotted cup point set screw. Can also be furnished with cup type, single or double, set screws or plain molded hole, on special order. Available in red, ivory or walnut on special request. All knobs take ¼" shafts.

PLAIN KNOBS

Waldom Number	Dimensions, Inches			Net per Pkg.	Net per C
	Overall Dia.	Overall Ht.	Body Dia.	5-99	100-499
WA-4100	1⅛	⅝	1 3/16	$4.75/5	$ 84.80
WA-4101	1⅜	1 1/16	1 3/16	4.85/5	87.10
WA-4102	1⅝	¾	1⅛	5.40/5	96.75
WA-4103	2⅜	⅞	1¾	7.50/5	133.90

Add suffix **D** to model number for 3 holes, drilled and not tapped.

KNOB AND SKIRT

Waldom Number	Dimensions, Inches		Net per Pkg.	Net per C
	Skirt Diameter	Overall Height	5-99	100-499
WA-4104	1½	5/64	$ 9.60/5	$172.15
WA-4107	1¾	5/64	10.25/5	183.60
WA-4108	2 1/16	⅞	11.15/5	199.70
WA-4109	3	1	11.15/5	199.70

BAR KNOB

Molded, highly polished, black tenite. Fully recessed to cover a standard mounting nut. Brass insert and set screw supplied. For ¼" shafts. Dia., 1 1/16"; ½" high.

Waldom No. BK-1B (24073)—Net per Pkg. 5-99.....**$2.40/5**
Net per C, 100-499.....**$42.65**

BAR TYPE KNOBS

Popular bar type knob made of black molded Bakelite, with set screw and white indicator line. For ¼" shaft. Diameter, 1⅛"; 9/16" high.

Waldom No. WA-1500—Net per Pkg. 5-99.....**$2.00/5**
Net per C, 100-499.....**$35.90**

MODERN KNOBS

For use wherever smooth surfaces and smart appearance are required. Injection-molded styrene plastic provides high finish, clear colors, light weight. Furnished with ¼" brass inserts and slotted set screws; supplied with Allen head or double set screws on request. Black finish standard; ivory or red available on special request. Unique, distinctive design only by Waldom.

Waldom Number	Overall Dimensions, Inches		Net per Pkg.	Net per C
	Diameter	Height	5-99	100-499
6126	⅝	7/16	$3.80/5	$67.60
6129	⅞	19/32	4.10/5	72.80

STANDARD KNOBS

Series WA-1400 and WA-1470 are small pointer knobs; all oth... are small round knobs. Black molded Bakelite® with set scre... For ¼" shafts, except where otherwise indicated.

Waldom Number	Size, Inches		Net per Pkg.	Net per C
	Diameter	Height	5-99	100-49
WA-1400	1 1/16	13/32	$1.30/5	$ 22.9
WA-1400R*	1 1/16	13/32	1.70/5	30.4
WA-1400W†	1 1/16	13/32	3.80/5	67.7
WA-1450	1 1/16	13/32	1.30/5	23.1
WA-1450W†	1 1/16	13/32	2.90/5	51.7
WA-1450G*	1 1/16	13/32	1.75/5	30.7
WA-1475	1	½	1.85/5	32.7
WA-1475C†	1	½	5.95/5	106.6
WA-1470	1	½	5.15/5	92.3
WA-1470C†	1	½	6.30/5	113.1

*With ⅛" molded hole. †With ¼" brass insert.

POINTER KNOB

Similar in design to WA-1500 except tapers down to a point at one end of the bar.

Waldom No. WA-1550—Net per Pkg. 5-99.....**$1.90/**
Net per C, 100-499.....**$33.8**

SKIRTED KNOBS

Black instrument knobs with integrated body and skirt. For ¼ shaft. With set screw. Nos. WA-1600A and WA-1610A supplie... with brass insert.

Waldom Number	Dimensions, Inches		Net per Pkg.	Net per C
	Skirt O.D.	Overall Height	5-99	100-499
WA-1600	1½	¾	$2.75/5	$49.4
WA-1600A	1½	¾	4.00/5	71.5
WA-1610	⅞	5/16	2.40/5	42.4
WA-1610A	⅞	5/16	3.45/5	61.9

POINTER TYPE KNOBS

Used on a variety of electronic items, test equipment and appli... ances. Black polished Bakelite with white filled pointer. With se... screw. Dimensions, 1¼" long, ⅜" high. For ¼" shafts.

Waldom No. WA-2300—Net per Pkg. 5-99.....**$1.55/**
Net per C, 100-499.....**$27.3**
Waldom No. WA-2300A—Net per Pkg. 5-99.....**$2.75/**
Net per C, 100-499.....**$49.4**
Waldom No. WA-2350—Net per Pkg. 5-99.....**$2.65/**
Net per C, 100-499.....**$47.3**
Waldom No. WA-2350A—Net per Pkg. 5-99.....**$3.65/**
Net per C, 100-499.....**$65.3**

INSTRUMENT KNOBS

Black Bakelite knobs with slotted set screws and white marker line on skirts. All knobs available with spun aluminum inlay on special order; prices on request.

Waldom Number	Dimensions		Mounting Dia. and Type	Net per Pkg.	Net per C
	Dia.	Ht.		5-99	100-499
WA-101	¾"	½"	¼" molded hole	$2.75/5	$ 49.40
WA-101B	¾"	½"	¼" brass insert	5.65/5	100.65
WA-101C	¾"	½"	⅛" molded hole	2.95/5	52.50
WA-102	1⅛"	5/8"	¼" molded hole	2.85/5	50.70
WA-103	1¼"	¾"	¼" molded hole	3.60/5	64.00
WA-103B	1¼"	¾"	¼" brass insert	4.95/5	88.95
WA-104	1½"	⅞"	¼" molded hole	3.75/5	66.60
WA-104B	1½"	⅞"	¼" brass insert	5.45/5	97.50
WA-105	2"	1 5/16"	¼" molded hole	5.60/5	100.10
WA-105B	2"	1 5/16"	¼" brass insert	6.25/5	111.80
WA-106*	1¼"	¾"	¼" molded hole	6.10/5	109.20
WA-106A†	1¼"	¾"	¼" molded hole	6.10/5	109.20
WA-107‡	1¼"	1 3/16"	.....	6.70/5	119.60
WA-109	1¼"	5/8"	¼" molded hole	4.15/5	74.10
WA-109B	1¼"	5/8"	¼" brass insert	5.30/5	94.90

*With silver inlay, add final suffix **S**. †With gold inlay, add final suffix **G**. ‡Dual concentric using WA-106 type for ¼" shaft and WA-101C for ⅛" shaft.

MOLDED INSTRUMENT CASES WITH MATCHING PANELS AND COVERS

Sturdy heavy molded plastic case with highly polished finish. Wall thickness, ⅛". Cases with suffix **BI** have 6-32 brass inserts in four corners; all others have molded holes. Designed to withstand rough treatment and provide safety to meter or other components within. Matching molded black phenolic panels ⅛" thick are available in two types: Flat panel for recess fit, or flanged cover that fits over case. Panels and covers are supplied complete with hardware when ordered in conjunction with instrument cases.

Waldom Number	Description	Net per Pkg.	Net per C
		5-99	100-499
BC-136	Case 3 25/32 x 2 21/32 x 1 11/32"	$1.10/1	$ 95.70
BP-135	Flat panel for above	.45/1	37.70
BC-138	Case 6 x 3½ x 1⅞"	2.15/1	191.10
BC-138BI	Above with brass inserts	2.75/1	244.40
BP-137	Flat panel for BC-138, BC-138BI	1.65/1	146.90
BP-137A	Molded cover for BC-138, BC-138BI	1.75/1	156.00
BC-140	Case 6½ x 4 31/32 x 2 25/32"	3.40/1	301.60
BC-140BI	Above with brass inserts	3.75/1	335.40
BP-139	Flat panel for BC-140, BC-140BI	2.30/1	202.80
BP-139A	Molded cover for BC-140, BC-140BI	2.50/1	224.90
BC-142	Case 5⅞ x 3 1/16 x 2 1/4"	2.70/1	239.20
BC-141BI	Case 8 3/16 x 7 3/4 x 3"	8.70/1	777.40

®Registered Bakelite Corp. trademark.

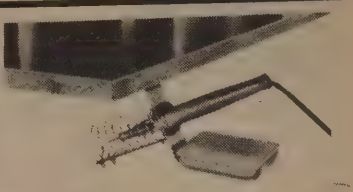
SAMPLES, OR PRICES FOR LARGER QUANTITIES AVAILABLE ON REQUEST

Soldering Stations, Holders, and Tip Cleaners

MODEL HC-10F UNDER-BENCH IRON HOLDER-TIP CLEANER COMBINATION

e perfect answer for production solder stations with a minimum work area. del HC-10F is easily installed with only two screws—either over or under the rk bench. Operators find this unit most convenient and safe to use since it does clutter the work area and holds the soldering iron securely. The anodized alumi- n tip cleaner sponge tray prevents contamination and corrosion. The low sulpher ntent, heavy duty sponge assures long life.

del HC-10F, Net Each $14.50
del No. SP-2, Heavy duty replacement sponge. Net Each ..... $ .90



HC-10F

MODEL HC-4 IRON HOLDER WITH VERTICAL TIP CLEANER

e HC-4 Iron Holder incorporates the vertical TC-3 tip cleaner to provide a con- nient and safe stand to hold a miniature iron, allowing a cleaner, neater work ea. Dual iron holder also available (specify Model No. HC-5).

odel No. HC-4, single iron holder with vertical tip cleaner. Net Each $16.25
odel No. HC-5, Dual iron holder with vertical tip cleaner. Net Each $24.50
odel No. SP-1, Replacement sponge. Net Each ..... $ 1.10



TC-3

MODEL TC-3 TIP CLEANER

stroke across the wet vertical sponge removes undesirable residue which falls into e base tray. Solder on the tip's working surface is not destroyed. Top cover lifts f for refilling the water reservoir.

odel No. TC-3, Tip cleaner. Net Each $5.75
odel No. TC-3, Replacement sponge. Net Each 1.10

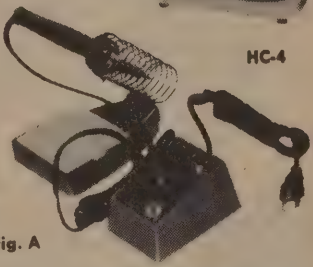


EC-6

MODEL EC-6 ESICONTROL—VARIABLE WATTAGE CONTROLLER FOR SOLDERING IRONS AND POTS

lodel EC-6 variable wattage controller provides manual control of soldering iron tip mperature and/or solder pot temperature with automatic correction for voltage ctuations. Model EC-6(D) features a thyrector diode which is added to the circuit protect components from inductive voltage surges by limiting peak discharge oltage (specify when ordering). ESICONTROL provides close control—up to 75% f full wattage of the heating element and permit operation or 100% of full wattage ithout control. ESICONTROL will handle any 120-volt heater load to 840 watts. oth models are fused and have a pilot light to indicate cycling.

lodel No. EC-6, Variable wattage controller. Net Each $30.50



HC-4

Fig. A

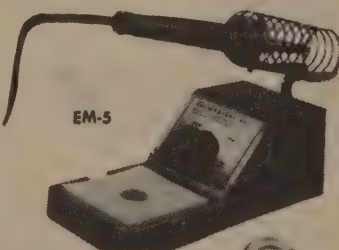
DO-IT-YOURSELF SOLDER STATIONS

eam up any iron holder and miniature soldering iron with the versatile EC-6(D) SICONTROL wattage controller for a three-component soldering station. Figure combines the EC-6(D) ESICONTROL with the Model HC-4F iron holder and a 460, 60-watt miniature iron. Priced separately.

ESI-MASTER EM-5 SOLDER STATION

The EM-5 solder station is a self-contained electronic solder station featuring a low- voltage iron with the heating element isolated from the power line and a low resistance ground circuit. The electronic control circuitry is zero switching. These features protect components being soldered from voltage surges. The entire spectrum is adjustable by means of a control knob and maintained by the unit's electronic circuitry. No need to change solder tips to vary temperature—simply set the dial. An operating indicator light shows on-off status of the soldering station. Station operates on 120 VAC and is fused and grounded for operator protection. The rug- ged, compact chassis weighs enough to set firmly on the work bench without creep- ing or tipping. The low sulpher content sponge and removable anodized aluminum tray prevent contamination of the soldering tip, and the removable sponge tray is located away from the iron holder to minimize evaporation. The iron holder is designed to eliminate heat sinking of the soldering tip while providing maximum operator safety.

Model EM-5, ESI-MASTER Solder Station. Net Each $130.00



EM-5

MODEL 222 SOLDER STATION

Model 222 incorporates the EC-6(D) wattage control, iron holder, and low sulpher content tip cleaner. The Station has many of the same features as the EM-5 soldering station, such as variable temperature control, operating indicator light, and remov- able sponge tray in a rugged, compact chassis. Although the model is not furnished with a soldering iron, it may be used with many different miniature irons allowing multiple choices in tip diameters, styles, and wattages resulting in a wide range of fully adjustable temperatures to satisfy the needs of any production requirement. A thyrector diode in the circuit protects components from inductive voltage surges by limiting peak discharge voltage. Operates on 120 VAC and is fused and grounded for operator protection.

Model No. 222, Solder Station. Net Each $48.00



222

®ESICO is a registered trademark of Esico, Inc.

ESICO® Solder Pots

Whatever the requirements—tinning, stripping, dip soldering, etc., there is an ESICO® solder pot to do the job efficiently. Designed for today's continuous production requirements, the cast iron crucibles feature thin lips for operator convenience, comfort, and high volume production. Available in 120 and 240 VAC. Special wattages can be supplied to meet customer specifications. Three styles are available in many pots: (1) Standard models; (2) models with suffix **C** feature a thermo cape, which fits over the crucible and adds approximatel 150°F to the temperature of standard models without increas ing the wattage of the heating element; (3) models with suff **T** feature an adjustable thermostat for selecting the optimu operating temperature.



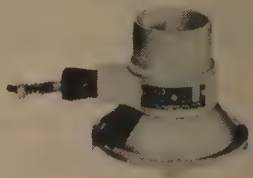
MODEL 20—250 WATT

Closely controlled temperature from 500° to 1050°F with automatic correction for voltage fluctuations. 1200°F Max. Temp.



MODEL 12—200 WATT

For individual dipping of small parts.



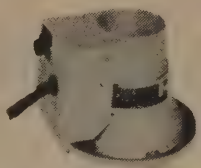
MODEL 36—250 WATT

For dip soldering bundles of lead wires etc.



MODEL 75T—650 WATT

Designed for dipping small assemblies too large for round pots.



MODEL 36T—250 WATT

Temperature is adjustable with the thermostat from "off" to 650°F.



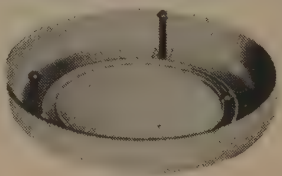
MODEL 37T—650 WATT

Temperature adjustable with thermostat setting from "off" to 650°F.



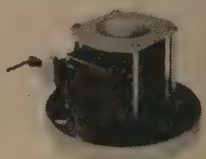
MODEL 70T—650 WATT

The largest standard round pot of the line with 9 lb. solder capacity.



MODEL 1270—SAND TRAY

For all pots shown except Model 20.



MODEL 71T—1000 WATT

Has an extra large solder capacity with a deep well for long parts. Comes with sand tray.



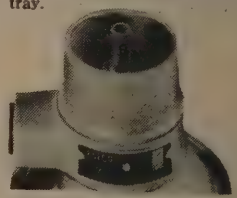
MODEL 80T—1200 WATT

For dipping PC boards. Thermostat control for selecting best temperature. Comes with sand tray.



MODEL 36C—250 WATT

Model 36 fitted with thermocape.



CRUCIBLE WITH DRY WELL

Center pole isolates tube alignment posts from molten solder while dipping contact pins on octal tube bases.

Model No.	Watts	Inside Dimensions (Inches)	Inside Depth (Inches)	Temp. °F Max.	Solder Cap (Lbs.)	Ship. Wt. (Lbs.)	Complete 3/C Pot	Element	3/C Cordset
12	200	1 9/16 diam.	1 1/2	750	3/4	4.00	$30.80	$5.70	$10.20
12C	200	1 9/16 diam.	1 1/2	900	3/4	4.25	36.20	5.70	10.20
12T	250	1 9/16 diam.	1 1/2	650	3/4	6.25	57.50	5.70	7.60
36	250	2 1/2 diam.	1 3/4	750	2 1/4	4.12	32.50	5.70	10.20
36C	250	2 1/2 diam.	1 3/4	900	2 1/4	4.37	38.40	5.70	10.20
36T	250	2 1/2 diam.	1 3/4	625	2 1/4	6.33	58.50	5.70	7.60
37	600	3 1/2 diam.	1 3/4	800	5	7.25	42.00	9.60	10.20
37C	600	3 1/2 diam.	1 3/4	1000	5	7.50	50.60	9.60	10.20
37T	650	3 1/2 diam.	1 3/4	650	5	9.12	71.00	9.60	7.60
70	600	4 3/4 diam.	1 3/4	750	9	6.75	45.50	9.60	10.20
70T	650	4 3/4 diam.	1 3/4	650	9	8.00	72.00	9.60	7.60
75	600	4 3/4 × 4 3/4	1 3/4	750	11 3/4	8.00	49.00	9.60	10.20
75T	650	4 3/4 × 4 3/4	1 3/4	650	11 3/4	9.12	73.00	9.60	7.60
71T	1000	3 1/8 diam.	4 1/4	900	9 1/2	14.00	95.00	18.40	6.80
20	250	2 diam.	1 1/2	1200	1 1/4	26.00	205.00	51.00	6.80
80T	1200	6 × 12	1 7/8	650	45	7.00	89.00	17.70	4.10
1270 Tray	—	9 1/4 diam.	1 1/2	—	—	4.75	14.00	.....	.....

®ESICO is a registered trademark of Esico, Inc.

KESTER Solder and Flux

KESTER "44" RESIN CORE SOLDER



Revolutionary solder advancement uses a fast-acting, instant-wetting, non-corrosive, non-conductive flux for faster soldering and long-lasting, stronger bond. Available in any size ranging from .005" to .250". Also available for Fed. Spec. QQ-S-571d. Two standard put-ups: 1-lb. and 5-lb. spools; 20 lb. spools available on special order.

Alloy Tin/Lead	Dia. In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs. 11-24 Lbs. 25-49 Lbs.
40/60	.062 (16)	1 lb. 5 lbs.	Prices on Request
	.093 (13)	1 lb. 5 lbs.	
50/50	.062 (16)	1 lb. 5 lbs.	
	.093 (13)	1 lb. 5 lbs.	
60/40	.015 (27)	1 lb.	
	.020 (25)	1 lb.	
	.025 (23)	1 lb.	
	.031 (21)	1 lb. 5 lbs.	
	.040 (19)	1 lb. 5 lbs.	
	.050 (18)	1 lb. 5 lbs.	
	.062 (16)	1 lb. 5 lbs.	
	.093 (13)	1 lb. 5 lbs.	
63/37	.015 (27)	1 lb.	
	.020 (25)	1 lb.	
	.025 (23)	1 lb.	
	.031 (21)	1 lb. 5 lbs.	
	.040 (19)	1 lb.	
	.050 (18)	1 lb.	
	.062 (16)	1 lb.	

KESTER SOLID WIRE SOLDER



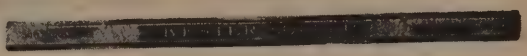
For use with external flux, this solder is equal in quality and purity to Kester "44" solder. Always uniform in diameter and alloy. Standard put-ups are 1-lb. and 5-lb. spools; 20-lb. spools and 50-lb. reels also available.

Alloy Tin/Lead	Dia., In. (Ga)	Spool of	Net per Spool, Lots of 1-10 Lbs. 11-24 Lbs. 25-49 Lbs.
40/60	.125 (11)	1 lb. 5 lbs.	Prices on Request
	.062 (16)	1 lb. 5 lbs.	
50/50	.125 (11)	1 lb. 5 lbs.	
	.062 (16)	1 lb. 5 lbs.	
60/40	.062 (16)	1 lb. 5 lbs.	
	.031 (21)	1 lb. 5 lbs.	

"ULTRAPURE" BAR SOLDER

Extruded bar solder with an absolute minimum of oxides and metallic impurities. Personnel handling "Ultrapure" in the factory wear gloves to prevent contamination from body salts and oils. Small, 1¾ lb. bars are extruded from one large ingot. A series of parallel grooves along the bar identify the alloy at any period during its use.

BAR SOLDER



Available in all the tin-lead alloys. Uniform distribution of tin/lead alloys provides for more efficient and easy application.

Alloy Tin/Lead	Bar Weight	Net Each, Lots of 1-10 Lbs. 11-24 Lbs. 25-49 Lbs.
30/70	1 lb.	Prices on Request
40/60	1 lb.	
50/50	1 lb.	
60/40	1 lb.	
63/37	1 lb.	



KESTER PRINTED CIRCUIT BOARD SOLDER

Ideal for printed circuit board repair. 60% tin and 40% lead alloy with KESTER famous "44" Resin flux provide perfect connection all the time.

Kester Printed Circuit Board Solder—Carton of 10 boxes (total weight, 1 lb.)*

Kester Acid Core Solder—1-lb. Spool, 5-lb. Spool.*

Kester "Metal Mender" Acid Core Solder—40/60 solder in handy display carton of ten 2-oz. boxes.*

Kester Soldering Paste—Display carton of ten 2-oz. cans.*

*Prices on Request.

KESTER SOLDERING FLUXES



For use on all metals except aluminum. Remain stable even under extreme conditions. The latest development in practical flux, these efficient formulations meet all manufacturing techniques including specialized assembly, automation, modular techniques, etc. Choice of pint, quart or gallon put-ups; 5-gallon containers also available on request.

Formula 135—An external non-conductive flux conforming to MIL-F-14256.

Formula 145—A flux more dilute than No. 135 and often specified for solderability tests.

Formula 105—A solvent for thinning formulas 135 and 145.

Formula 115—A general-purpose flux, absolutely non-corrosive, non-conductive and conforming to MIL-F-14256.

Formula 101—For thinning or diluting formula 115.

Formula 197—A mildly activated rosin flux in an alcohol solvent and conforming to MIL-F-14256. The surface tension has been adjusted so that a low air pressure wil produce a very uniform head of small bubbles for foam fluxing applications.

Formula 108—For thinning or diluting formula 197.

Formula 1544—A rosin flux virtually as active as an "acid" flux yet safe for use on electronic equipment. Especially effective for soldering zinc and nickel.

Formula 1571—Slightly more dilute than formula 154 and intended for PC board assemblies.

Formula 1545—Slightly more dilute than formula 1571. Requires cleaner circuit assemblies but leaves less flux residue.

Formula 1547—Requires very clean parts, but leaves a minimum of flux residue.

Formula 104—For thinning or diluting fluxes of the 1500 series.

Formula 1585—Similar to formula 1571, but formulated for easy foaming action for flux foaming applications.

Formula 1587—Similar to formula 1585, but leaves less flux residue.

Formula 1589—A dilute flux for use where a minimum of flux residue is desirable. Permits easy soldering on difficult parts.

MASTER appliance MASTER HEAT GUN®



Listed
Certified



Adjustable rubber-backed base permits full 90° rotation of heat gun for benchtop use.

APPLICATIONS:
The perfect flameless electric heat tool for hundreds of electronic/industrial uses: Shrink tubing • De-solder • Melt solder preforms • Heat shrink packaging • Soften floor covering • Strip paint and varnish • Defrost freezer coils • Repair and install vinyl • Activate adhesives • Wherever a fast, portable flameless heat is the need.

CONSTRUCTION FEATURES:
Models with temperatures up to 1000°F/538°C (See table below). Adjustable air intake controls output temperature and air volume. Reinforced ceramic heating element. Rugged, die-cast aluminum housing with externally replaceable carbon brushes. 3-wire oil resistant cordset.

SPECIFICATIONS:

MODEL	TEMPERATURE*		VOLTS	AMPS	PRICE
HG-201	200-300°F	93-149°C	120	5	$63.50
HG-202	200-300°F	93-149°C	220/240	3	$68.50
HG-301	300-500°F	149-260°C	120	12	$63.50
HG-302	300-500°F	149-260°C	220/240	6	$68.50
HG-501	500-750°F	260-399°C	120	14	$65.00
HG-502	500-750°F	260-399°C	220/240	7	$71.00
HG-751	750-1000°F	399-538°C	120	20	$73.00
HG-752	750-1000°F	399-538°C	220/240	10	$78.00

*Average outlet temperatures measured 1" from nozzle

ATTACHMENTS & ACCESSORIES:

PART NO.	DESCRIPTION	PRICE
A-206-HG	¼" Pinpoint attachment	$13.95
A-160-HG	For shrink tubing up to ¾" O.D.	$ 6.50
A-170-HG	For shrink tubing from ¾" up to 2" O.D.	$ 6.50
A-203-HG	Extra-wide (8") for shrink tubing up to ¾" O.D.	$17.95
A-205-HG	For shrink boots up to 1¾" O.D.	$10.85
51014	Shrink wrap packaging attachment 8" wide	$17.50
51013	Molded carrying case	$19.95



A-206-HG
¼" Pinpoint attachment

A-160-HG
Attachment for shrink tubing up to ¾" O.D.



A-170-HG
Attachment for shrink tubing from ¾" up to 2" O.D.



A-205-HG
Attachment for shrink boots up to 1¾" O.D.



A-203-HG
Extra wide attachment (8") for shrink tubing up to ¾" O.D.

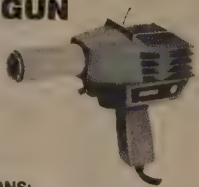


51014
Shrink wrap attachment.



51013
Molded carrying case.

MASTER appliance MASTER-MITE™ HEAT GUN



Listed
Certified

APPLICATIONS:
The compact, light but rugged "Master-Mite" is designed for electronic and electrical benchwork such as shrink tubing, melting solder preforms, activating and curing adhesives and epoxies, preheating flux, etc. Air velocity is just right for benchtop use; it won't blow connectors and small components around the work area.

CONSTRUCTION FEATURES:
High impact GE "Noryl®" housing withstands hard knocks. Brushless shaded pole continuous duty motor. 3-wire grounded cordset. Draws only 4.5 amps. maximum. Slip-on heat-shrink attachment and 650°F element standard. Slip-on attachment for pinpoint heat, and 500°F and 800°F snap-in heat elements available.

SPECIFICATIONS:

MODEL NO.	DESCRIPTION	VOLTAGE 50/60 Hz	AMPS	SHIP. WT.	PRICE
10008	Heat Gun with 650°F Element & Deflector Attachment	120	4.5	3 lbs.	$44.00
10009	Heat Gun with 650°F Elements & Deflector Attachment	220/240	2.3	3 lbs.	$45.00

SNAP-IN REPLACEMENT ELEMENTS:

PART NO.	COLOR	TEMPERATURE*		VOLTS	WATTS	PRICE
20012	Blue	500°F	260°C	120	340	$6.50
20013	Silver	650°F	343°C	120	475	$6.50
20014	Black	800°F	427°C	120	525	$6.50
20033	Blue	500°F	260°C	220/240	340	$6.75
20034	Silver	650°F	343°C	220/240	475	$6.75
20035	Black	800°F	427°C	220/240	525	$6.75

*Average outlet temperature ½" from nozzle.

ATTACHMENTS & ACCESSORIES:

PART NO.	DESCRIPTION	PRICE
40060	Deflector Attachment Slide-on deflector encapsules shrink tubing with even heat distribution	$ 2.75
40061	Pinpoint Attachment ¼" concentration of heat exactly where you want it.	$ 4.50
51007	Molded carrying case	$14.95



Part No. 40060
Slip-on attachment encapsules shrink tubing with all-around even heat distribution.

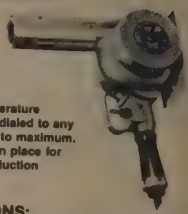


Part No. 40061
Pinpoint attachment directs a ¼" concentration of heat exactly where you want it.



Part No. 51007

MASTER appliance VARITEMP™ HEAT GUN



Electronic temperature control may be dialed to any setting ambient to maximum. May be locked in place for continuous production line use.

APPLICATIONS:
The ultimate flameless electric heat tool for hundreds of electronic/industrial uses: Shrink tubing • De-solder • Melt solder preforms • Heat shrink packaging • Soften floor covering • Strip paint and varnish • Defrost freezer coils • Repair and install vinyl • Activate adhesives • Wherever a fast, portable flameless heat is the need.

CONSTRUCTION FEATURES:
Temperatures from ambient to 750°F may be dialed-in. Setting may be locked in place for continuous production line use. Reinforced ceramic heating element with double jacketed heater housing for protection. Rugged, die-cast aluminum housing with externally replaceable carbon brushes. 3-wire oil resistant cordset.

SPECIFICATIONS:

MODEL	VOLTS	AMPS.	APPROX. TEMP.*	PRICE
VT-750	120	14	Ambient to 750°F/400°C	$103.50
VT-752	220/240	7	Ambient to 750°F/400°C	$106.00

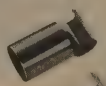
*At nozzle

ATTACHMENTS

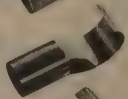
PART NO.	DESCRIPTION	PRICE
A-206-HG	¼" Pinpoint attachment	$13.95
A-160-HG	For shrink tubing up to ¾" O.D.	$ 6.50
A-170-HG	For shrink tubing from ¾" up to 2" O.D.	$ 6.50
A-203-HG	Extra-wide for shrink tubing up to ¾" O.D.	$17.95
A-205-HG	For shrink boots up to 1¾" O.D.	$10.85
51024	Shrink wrap packaging attachment 8" wide	$17.50



A-206-HG
¼" Pinpoint attachment.



A-160-HG
Attachment for shrink tubing up to ¾" O.D.



A-170-HG
Attachment for shrink tubing from ¾" up to 2" O.D.



A-205-HG
Attachment for shrink tubing up to 1¾" O.D.



A-203-HG
Extra wide attachment (8") for shrink tubing up to ¾" O.D.



51024
Shrink wrap attachment.

MASTER appliance

CONTINUOUS DUTY HEAT BLOWER



APPLICATIONS:

The Master Continuous Duty Heat Blower is the perfect answer wherever a continuous supply of large volume hot air is needed. It is especially useful with many heat-shrink products such as tubing, end caps and sleeves. May be used to dry electronic assemblies, quick-dry ink and paint, activate adhesives and epoxies, shrink packaging materials.

CONSTRUCTION FEATURES:

Each Master Heat Blower is equipped with a heavy duty brushless shaded pole motor suitable for 24-hour continuous operation. An oversize turbofan cools the motor. Large 2" diameter nozzle covers a wide area with heated air. Weighs only 7 lbs. — light enough to be easily used for portable applications. Convenient handle for hand use and carrying. Sturdy rubber-padded adjustable base may be rotated 90° for convenient benchtop use, and allows for mounting on walls, benches, machines and air tunnels. Three-way switch permits change from "Off" to "Hot" or "Cool" (for unheated air when used as a blower only). Oil resistant neoprene cord with 3-wire molded plug.

SPECIFICATIONS:

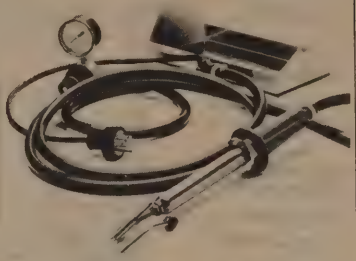
MODEL	AH-301	AH-302	AH-501	AH-502	AH-751	AH-752
RATED VOLTAGE 50 HZ.	120	220/240	120	220/240	120	220/240
AMPS	10.0	5.2	14.0	7.3	18.0	9.4
INPUT WATTS	1200	1200	1680	1680	2160	2160
AVERAGE TEMP. AT NOZZLE	300°F 149°C	300°F 149°C	500°F 260°C	500°F 260°C	750°F 399°C	750°F 399°C
AIR VOLUME C.F.M.	18.5	18.5	18.5	18.5	17.3	17.3
AIR VELOCITY FPM.	1200	1200	1200	1200	1130	1130
NOZZLE LENGTH	3¾"	3¾"	6"	6"	6"	6"
HEIGHT	9"	9"	9"	9"	9"	9"
OVERALL LENGTH	9½"	9½"	12½"	12½"	12½"	12½"
BASE DIMEN.	6"x6"	6"x6"	6"x6"	6"x6"	6"x6"	6"x6"
PRICE	$74.00	$82.50	$77.00	$84.50	$84.50	$90.00

REPLACEMENT HEATING ELEMENTS

PART NO.	DESCRIPTION	SHIP. WT.	PRICE
815	Replacement for AH-301	2 oz.	$ 7.00
816	Replacement for AH-302	2 oz.	$ 7.50
818	Replacement for AH-501	8 oz.	$ 9.50
820	Replacement for AH-502	8 oz.	$10.00
821	Replacement for AH-751	9 oz.	$10.00
822	Replacement for AH-752	9 oz.	$11.75

MASTER appliance

ULTRATORCH™



APPLICATIONS:

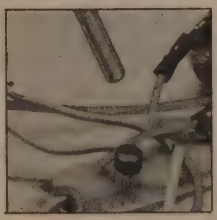
The Master Appliance Ultratorch is a heavy duty industrial production tool that's perfect for applying high-intensity heated air to pinpoint areas. Highly useful in applying heat-shrink tubing, melting solder preforms, spot heating or drying components, activating thermal adhesives, shaping, bending and welding thermoplastics, etc. Operates on choice of 115v. or 220v., with shop or inert gas.



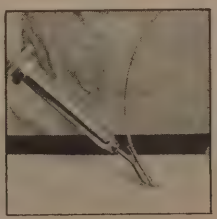
Attachment surrounds heat-shrinkable tubing with hot air for high-speed production line use. Optional attachment.



Slip-on attachment designed to heat solder preforms fast. Optional attachment.



Applies pinpoint heat for drying or heat checking small components. Optional attachment with Ultratorch.



Speedwelds thermoplastics at up to 40" per minute. Perfect for fabricating plastic ductwork, holding tanks, etc. Welding attachment standard with Ultra-torch.

CONSTRUCTION FEATURES:

Each Ultratorch comes as a complete kit, requiring only a source of shop air or inert gas. Set includes torch with 550 watt heat element, tacking tip, ⅛" speedwelding tip, air gauge, regulator, and bench stand, plus 10 ft. air hose, and three-wire grounded cordset.

SPECIFICATIONS:

MODEL NO.	DESCRIPTION	SHIP. WT.	PRICE
FHT-791	115 volt Ultratorch	4 lbs.	$169.50
FHT-792	230 volt Ultratorch	4 lbs.	$174.50

REPLACEMENT HEAT ELEMENTS:

PART NO.	ELEMENT WATTAGE	VOLTS	SHIP. WEIGHT	PRICE
50815	550	115	4 oz.	$20.00
50814	450	115	4 oz.	$20.00
50813	350	115	4 oz.	$20.00
50812	250	115	4 oz.	$20.00
50819	550	230	4 oz.	$20.00
50818	450	230	4 oz.	$20.00
50817	350	230	4 oz.	$20.00
50816	250	230	4 oz.	$20.00

APPROXIMATE AIR TEMPERATURE:

ELEMENT WATTAGE	8 lbs.	7 lbs.	6 lbs.	5 lbs.	4 lbs.	3 lbs.	2 lbs.
550	550°	600°	650°	700°	775°	875°	1050°
450	450°	500°	550°	600°	650°	700°	850°
350	350°	400°	450°	500°	550°	600°	700°
250	250°	300°	330°	360°	390°	420°	500°

Measured in °F ¼" from nozzle at various air pressures.

ATTACHMENTS—ACCESSORIES:



Part No. 50820
Shrink tubing attachment. $20.00



Part No. 50821
Attachment for installing solder sleeve* $35.00



Part No. 50580
Air gauge. $8.00



Part No. 50449
Air pressure regulator. $9.00



Part No. 50581
Metal carrying case. $10.50



Part No. 50553
Metal bench stand. $4.50



Part No. 50827
Protective heat shield $11.00

Part No. 50822
115v Air compressor. $195.00

Part No. 50824
230v Air compressor. $195.00

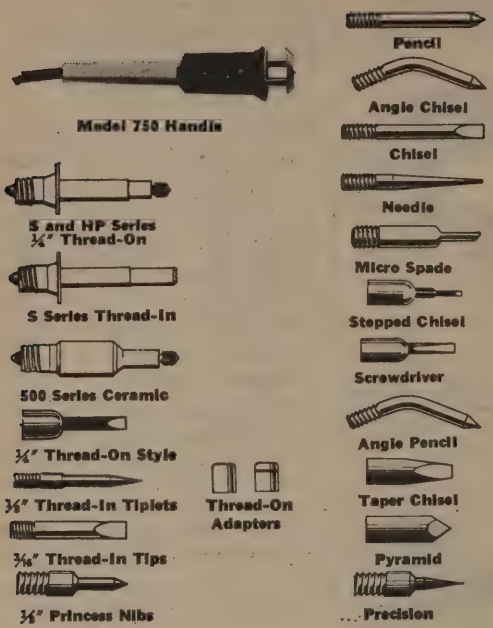
Part No. 50823
Air filter. $16.35

PLASTIC WELDING ATTACHMENTS:

Master Appliance offers 26 different plastic welding attachments plus an assortment of tools to aid in plastic welding. Contact us for details and prices.

*A registered trademark of RAYCHEM

Ungar "STANDARD LINE" SOLDERING TOOLS



The modular "Standard Line" provides the professional with a durable yet economical iron for all types of soldering. Handles are perfectly balanced for comfort and fatigue-free soldering. Heaters provide fast recovery and maximum heat transfer. All irons are for operation on 120 VAC.

MODEL 750 GROUNDED 3-WIRE HANDLE

The handle, when assembled with the S or HP Series heaters, is completely grounded from tip to plug and eliminates electrostatic tip potential. A unique, spring-loaded ground plate reflects heat away from the operator's hand. **For use only with S or HP heaters.**

Ungar Model 750 Grounded Handle—Net Each..... **$10.95**

MODEL 777 CLEAN ROOM HANDLE

Convection-cooled, molded grip for "clean room" use. Octagonal handle prevents rolling. Stainless steel heat reflector. Accepts all Standard Line heaters and integral heater/tips, including the S and HP series.

Ungar Model 777 Clean Room Handle—Net Each..... **$4.95**

MODEL 776 CORK GRIP HANDLE

Same as Model 777, but red with cork grip.

Ungar Model 776 Handle—Net Each..... **$4.95**

Ungar Model 7070 Technician's Soldering Kit—33 W, 120 VAC with No. 776 handle, No. 1237-S heater, and Nos. 111, 113 and 116 tips. Net Each..... **$14.93**

500 SERIES CERAMIC HEATERS

The most economical and popular 27-watt ceramic heaters and integral heater/tips. For use only with Models 776 and 777 handles. Model 537 Thread-On Heater will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

S SERIES STAINLESS STEEL HEATERS

Constructed of corrosion-resistant stainless steel. Units feature improved 2- or 3-wire versatility, high strength, resistance to abuse and provide positive transfer of heat to the tip. Wedge-shaped base guide permits firm, taper-fit assembly to the handle. The heat reflecting shield also provides a positive ground when used with Model 750 grounded handle. Models 537-S, 1237-S and 4037-S Thread-On Heaters will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Thread-In Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

HP SERIES HIGH PERFORMANCE HEATERS

Also constructed of corrosion-resistant stainless steel and designed for applications requiring extra heat output. Units will out-perform bigger conventional irons. Respond automatically to temperature change, provide reserve power and fast recovery. Model 37HP will accept all ¼" Thread-On Tips and, with No. 100 Adapter, all ⅛" Thread-In Tiplets and Nibs; with No. 101 Adapter, all 3/16" Thread-In Tips.

REPLACEMENT TIP PACKS

Ungar No. 156 Tip Pack—Contains one #111 pencil, one #113 chisel and one #116 pyramid tip. Net Each..... **$3.50**

Ungar No. 157 Tip Pack—Contains two #113 chisel tips. Net Each..... **$4.35**

ALL PARTS THREAD TOGETHER WITH FINGERTIP EASE

INTEGRAL HEATER/TIPS

Ungar No.	Temp. °F	Watts @ 120 VAC	Material	Tip Shape	Net Each
533† 536† 539†	650–700	27	Copper	Lg. chisel Pyramid Sht. chisel	$4.97 4.97 4.97
533-S 536-S 539-S	800§ 900§ 900§	23	Copper	Lg. chisel Pyramid Sht. chisel	6.12 6.12 6.12
1233-S	900§	33	Copper	Lg. chisel	7.58
1236-S 1239-S	900§ 1000§		Iron clad, plated	Pyramid Sht. chisel	7.58 7.58
4033-S 4036-S 4039-S	1000§ 1100§ 1100§	45	Iron clad, plated	Lg. chisel Pyramid Sht. chisel	9.53 9.53 9.53
33 HP	850–1000	50	High perf.	Lg. chisel	15.25

†Not for use with No. 750 handle. §Approximate.

HEATERS

Ungar No.	Temp. °F	Watts @ 120 VAC	Description	Net Each
FOR ¼" THREAD-ON TIPS				
537†	600–650	27	1.01" lg. x .312" diam.	$4.83
537-S	700§	23	3.67" lg. x .365" diam.	5.93
1237-S	800§	33	3.65" lg. x .375" diam.	7.12
4037-S	900§	45	3.45" lg. x .365" diam.	9.02
37HP*	800–850	50	3.27" lg. x .365" diam.	13.75
FOR ⅛" THREAD-IN TIPLETS AND NIBS				
535†	600–650	27	1.175" lg. x .312" diam.	$4.83
535-S	700§	23	3.18" lg. x .365" diam.	5.93
1235-S	800§	33	3.56" lg. x .365" diam.	7.12
4035-S	900§	45	3.56" lg. x .365" diam.	9.02
FOR 3/16" THREAD-IN TIPS				
4045-S	900§	45	3.56" lg. x .365" diam.	$9.02

†Not for use with No. 750 handle. *Chrome-plated, corrosion-resistant. §Approximate.

TIPS AND ADAPTERS

Ungar No.	Material	Tip Shape	Size, Ins. Ovrl. Lgth.	Size, Ins. Tip Diam.	Net Each
¼" THREAD-ON TIPS					
PL-111	Plated*	Pencil	1¼	1/16	$1.98
111	Copper	Pencil	1¼	1/16	.98
PL-113	Plated*	Chisel	1¼	1/16	1.98
113	Copper	Chisel	1¼	1/16	.98
PL-114	Plated*	Micro spade	1	.05	1.98
PL-116	Plated*	Pyramid	1	5/64	2.05
116	Copper	Pyramid	1	5/64	1.05
PL-133	Plated*	Taper chisel	1 1/16	1/16	2.05
133	Copper	Taper chisel	1 1/16	1/16	1.05
PL-138	Plated*	Needle	1¼	3/64	1.98
PL-151	Plated*	Screwdriver	1¼	1/16	1.98
PL-153	Plated*	Chisel	1 1/16	3/16	1.98
PL-155	Plated*	Stepped chisel	1¼	1/16	1.98
⅛" THREAD-IN TIPLETS					
PL-331	Plated*	Pencil	3/4	1/16	$1.58
331	Copper	Pencil	3/4	1/16	.68
PL-332	Plated*	Angle pencil	5/8	1/16	1.58
332	Copper	Angle pencil	5/8	1/16	.68
PL-333	Plated*	Chisel	3/4	1/16	1.58
333	Copper	Chisel	3/4	1/16	.68
PL-338	Plated*	Needle	3/4	1/32	1.58
PL-340	Plated*	Micro spade	5/16	3/64	1.58
7062	Plated*	Precision	3/4	1/32	2.75
7154	Plated*	Pencil	3/4	1/16	1.58
7155	Plated*	Chisel	3/4	1/16	1.58
1/16" PRINCESS NIBS					
6960	Plated#	Pencil	3/8	1/16	$1.72
6950	Copper	Pencil	3/8	1/16	.88
6961	Plated#	Screwdriver	7/16	1/16	1.72
6951	Copper	Screwdriver	7/16	1/16	.88
6962	Plated#	Spade	3/8	1/16	1.72
6952	Copper	Spade	3/8	1/16	.88
6963	Plated#	Precision	3/8	1/16	3.07
6953	Copper	Precision	3/8	1/16	1.68
⅛" THREAD-IN TIPS					
PL-823	Plated*	Pyramid	1	3/16	$1.78
823	Copper	Pyramid	1	3/16	.83
PL-824	Plated*	Chisel	1	3/16	1.78
824	Copper	Chisel	1	3/16	.83
PL-833	Plated*	Chisel	1¾	3/16	2.40
PL-834	Plated*	Angle chisel	1¾	3/16	2.40
ADAPTERS					
100	¼" thread-on heaters to ⅛" thread-in tips				$0.67
101	¼" thread-on heaters to 3/16" thread-in tips				.67

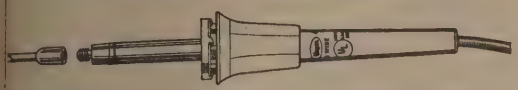
*Iron clad and silver plated. #Iron clad and gold plated.

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

3-WIRE AND DI® LINE SOLDERING IRONS, DE-SOLDERING TIPS AND ACCESSORIES

3-WIRE SOLDERING IRONS

FOR USE WITH MORE THAN 40 INTERCHANGEABLE TIPS FOR SOLDERING AND DE-SOLDERING



Provides many of the advantages of the Standard Line as a production soldering tool with approved grounding. Lightweight, integrated iron, has molded handle and octagonal cool grip. Threaded metal body for tip selection. Accepts ¼" thread-on tips, with adapter #100, ⅛" nibs and Tiplets; with adapter #101 for all 3/16" thread-in tips. Choose from more than 40 tips and de-soldering accessories. Simplified design makes it easy for in-shop replacement or change of heating element or cord. Three wattages available; temperature ranging from 650° F to 1000° F approx. 3-wire line is designed to eliminate static induced currents, iron is especially desirable for work on MOSFET and other IC components. Meets OSHA requirements. UL Listed.

Ungar No.	Voltage	Watts	Tip Temperature	Net Each
127*	120	27	650° F–750° F	$15.93
135*	120	35	750° F–850° F	15.93
145*	120	45	900° F–1000° F	15.93

*Adapter and tip not included; all temperatures approx.

REPLACEMENT PARTS FOR 3-WIRE SOLDERING IRONS

Ungar No.	Description	Net Each
127-S	27 W heating element assembly	$5.93
135-S	35 W heating element assembly	5.93
145-S	45 W heating element assembly	5.93
129	Heat reflector and washer	.70
130	Threaded body for heating element	4.77
136	Handle and cord set assembly	6.58

DOUBLE INSULATED D I® LINE



- **Easy to use—lightweight and compact design with flexible cord set.**
- **Easy to change—rugged stainless steel thread-in heaters.**
- **Cool—handle is molded of durable plastic, with finger-ease grip.**
- **Safe—new heater and handle with two-conductor cord set and safety plug, are double insulated. Meets OHSA requirements. UL Listed.**
- **Plus—use any Standard Line thread-on tips or with Ungar's #100 adapter, all ⅛" Tiplets and nibs. With adapter #101, all 3/16" thread-in tips. Choose from more than 40 tips and de-soldering accessories.**

Ungar No.	Volts	Watts	Tip Temperature*	Net Each
360	120	27	650° F–750° F	$ 8.98
361	120	35	750° F–850° F	8.98
362	120	45	850° F–950° F	8.98
363†	120	45	850° F–950° F	10.25
555	120	Thread-in handle		6.22

*All temperatures are approximate. †With integral tip.
Note: Use heater and handle together.

DE-SOLDERING TIPS AND ACCESSORIES

8800 SOLDERING IRON HOLDER



Holds all Ungar soldering irons except the Princess line and ceramic-type heaters. Also can be used for the Hot-Vac 2000 de-soldering tool and most soldering irons with 5/16" to 7/16" diameter heater cases. Sturdy, free-standing iron holder holds iron in proper position. Easy to assemble. Convenient tip cleaning sponge and tray.

Ungar No. 8800 Soldering Iron Holder—Net Each....$10.17

SOLDERING IRON HOLDER



Protects operator from burns; prevents iron breakage. Use with Ungar Standard Line, Imperial Line, 3-Wire Line and D I Line. Attaches easily to bench; angle adjustable.

Ungar No. 8000 Holder—Net Each..$5.23

KLEEN-TIP SPONGE AND TRAY

Specially processed sponge provides the surest way to clean soldering tips. Removes oxidation, prevents contamination and insures soldering reliability. Phenolic tray. Fastens to bench.

Ungar No. 400—Net Each.....$2.83

Ungar No. 455 Refill Sponge—Individually packaged. Net Each.....$1.12

UNGAR SOLDER-OFF BULB

Desoldering bulb with TFE tip facilitates accurate printed circuit soldering and cleaning. May be used with "Imperial" and "Standard Line" soldering irons. (Not illustrated.)

Ungar No. 7805 Solder-Off Bulb—Net Each.....$3.08

Ungar No. 7851 Replacement TFE Tip—Net Each..... 1.63

DIP DESOLDERING KITS

Adapt Ungar Standard Line, 3-Wire Line, DI Line and UNGARmatic irons for fast, easy desoldering of DIP's up to 16 pins. Each kit contains a No. 6948 slotted bar desolder tip which melts the solder on all leads, a No. 6982 spring-loaded DIP extractor which extracts the DIP at the precise moment of solder melt, a roll of Super-Wick to remove the solder from the holes in the board, and a tip adapter.

Ungar No. 50DK Desolder Kit—For UNGARmatic controlled soldering irons. Net Each.....$13.32

Ungar No. 51DK Desolder Kit—For Standard Line, 3-Wire and DI Line irons. Net Each.....$11.98



7800



7825 400, 455

MODEL 7825 DE-SOLDERING ATTACHMENT

Melts and removes solder in one operation. Vacuum action lifts solder from PC boards. Tips use special liner for long life. For use with #4037-S or 37 HP Standard Line heating unit and #776, 750 or #777 handles; also 3-wire iron #145 and new DI Line heater #362. Uses No. 7806 or 7812 Tips below.

Ungar No. 7825 De-Soldering Attachment—Net Each..$17.63

HOT-VAC® DESOLDERING, CLEANING TOOL

Reduced PC repair and rework time. Hot-Vac® melts and removes solder in fast, one-hand operation. Complete with Standard Line Handle #777, Heating Unit #4037-S and Tip #7806, with special liner for long life.

Ungar No. 7800 Hot-Vac® Tool—Net Each.....$30.28

Ungar No. 7806—Replacement tip for above; .057" dia. hole. Net Each.....$1.78

Ungar No. 7812—Same as above, but with .033" dia. hole. Net Each.....$2.50

NOTE: See next page for desoldering tips.

SUPER-WICK

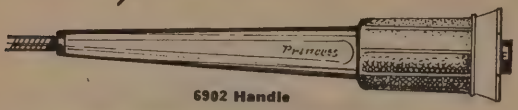
Woven copper braid to remove solder from unwanted spots on PC boards. Pure water-white rosin flux assures clean and contaminant-free desoldering.

Ungar No.	Width, Inches	Application	Net Each
5002*	.050	.060" to .125" pads	$1.65
5004*	.100	.190" and larger pads	1.88
5011	.025	.060" and smaller pads	1.42
5012	.050	.060" to .125" pads	1.42
5013	.075	.125" to .190" pads	1.42
5014	.100	.190" and larger pads	1.62

*1 per blister card.

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

Ungar / Princess® SOLDERING TOOLS, ACCESSORIES



6902 Handle

Miniature soldering iron designed to meet requirements for precision micro-electronic circuitry and high density assembly. Offer thermo-efficiency and work capacity never before achieved in small feather-weight irons. Slim design, turquoise handle assures deft soldering. Choice of easy-to-assemble units thread together for versatility in tip shapes and temperature capabilities. Low initial investment, economical maintenance and inexpensive parts replacement.

PRINCESS HANDLES

Slim, cool design is molded of heat-resistant nylon in pastel turquoise. New, cool plastic grip. Integral cord set, available in 2 or 3-wire models. Rated 120 volts AC/DC. Cords are flexible vinyl-covered. Heat capsule threads into handle socket. Perfectly balanced, pencil slim, new cooler operation. UL listed.

Ungar No.	Cord Type	Net Each
6902	2-conductor with plug	$ 9.63
6903	3-conductor with NEMA plug	12.62

PRINCESS HEAT CAPSULES

Threaded to accept the special thread-in Princess soldering nibs and mating to the Princess handles with finger-tip ease. Also accept "Standard Line" ¼" Tiplets if desired (will not accept Imperial tips). Choice of three wattages and temperature ranges to suit most production requirements. For 120 VAC/DC operation. Size, 3⅛" long; extends 2⅜" from handle. Wt., 0.2 oz.

Ungar No.	Watts	Temperature Range	Net Each
6910	10	575° F to 650° F	$11.32
6915	15	700° F to 775° F	11.32
6918	18	775° F to 850° F	11.32

PRINCESS SOLDERING NIBS

Choice of gold-plated iron clad or unplated cadmium copper tips in four standard shapes. Finger-tip ⅛" thread-in use on any Princess heat capsule listed above. Ungar's ⅛" Standard Line Tiplets may also be used (see listing on another page). Wt., .03 oz.

Ungar No.	Shape	Lgth., In.	Tip Stepped to:	Net Each
6950*	Pencil	7/16	.080" x .015"	$0.88
6951*	Screwdriver	½	.080" x .055"	.88
6952*	Spade, 45°	7/16	.080" dia.	.88
6953*	Precision point	7/16	.080" x .005"	1.68
6960	Pencil	7/16	.080" x .015"	1.72
6961	Screwdriver	½	.080" x .055"	1.72
6962	Spade, 45°	7/16	.080" dia.	1.72
6963	Precision point	7/16	.080" x .010"	3.07

*Cadmium copper tips; all others, gold-plated iron-clad.

PRINCESS IC DE-SOLDER KIT

Ideally suited for PC boards ½" or less, using low-density circuitry, unplated eyelets or mounting holes. Includes 3-wire grounded Princess handle, 18-watt heat capsule and three (No. 6945, 6947, 6948) de-solder tips. (Not Illustrated.)
Ungar No. 6939 De-Solder Kit—Net Each.....**$37.98**

DE-SOLDER TIPS



6944 6945 6947 6948

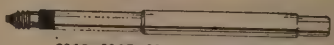
Iron-clad, nickel-plated and pre-tinned tips may be used with Ungar "Standard" line heating units No. 535, 535-S, 1235-S and 4035-S or Princess heat capsules (for lower or higher tip temperatures).

Ungar No.	Tip Temp., at 18 W	Description	Net Each
6943	700° F	TO pkg. (cup) .6" dia.	$4.80
6944	710° F	TO pkg. (cup) .5" dia.	4.80
6945	720° F	TO pkg. (cup) ⅜" dia.	4.80
6946	780° F	TO pkg. (cup) .28" dia.	4.80
6947	750° F	Slotted (lead and tab) straightener	3.80
6948	570° F	Dual inline IC	5.35

PRINCESS SOLDERING IRON HOLDER

Plastic base for convenient holding of Princess iron. Comes with specially-processed sponge for tip cleaning. Weight, 3 oz.
Ungar Model 6990 Holder—Net Each.....**$8.45**
Ungar No. 6991 Sponge Refill—Replacement cleaning sponge for above holder. Net Each.....**$1.22**





6910, 6915, 6918 Heat Capsules



Nib



6950, 6960



6951, 6961



6952, 6962



6953, 696

PRE-ASSEMBLED PRprincess COMBINATIONS

MODEL 6975 SOLDERING IRON

All-in-one package provides a complete Princess soldering iron with three interchangeable copper nibs. Includes one 6902 handle with 2-conductor cord and plug, one 6910 Heat Capsule rated 10 watts, one 6950 pencil nib, one 6951 screwdriver nib and one 696 spade nib.
Ungar No. 6975 Princess Assembly—Net Each.....**$23.1**

MODEL 6900 SOLDERING STATION

Fully assembled iron with three interchangeable copper nibs, plus Princess holder with cleaning sponge. Includes: 6902 handle with 2-conductor cord and plug, 6910 heat capsule rated 10 watts, 695 pencil nib, 6951 screwdriver nib, 6952 spade nib, and 6990 soldering iron holder complete with cleaning sponge.
Ungar No. 6900 Soldering Station—Net Each.....**$31.5**

PRINCESS DUAL INLINE AND TO-5 EXTRACTORS

No. 6982 extracts up to 16-pin dual inline IC's; use 6948 de-solder tip. No. 6983 extracts most TO-5 encased devices; use with Nos. 6943, 6944, 6945, or 6946 TO de-solder tips.
Ungar No. 6982 Dual Inline—Net Each.....**$4.52**
Ungar No. 6983 TO-5—Net Each.....**$4.87**



6982



6983

DIP EXTRACTION PLIERS



• Anti-Static

Spring loaded extraction pliers remove 4-48 pin DIP's without bending leads. Self-activating; one hand operation.
Ungar No. 6980 DIP Extraction Pliers—Net Each.....**$14.95**

HEAT GUN



• No Asbestos

Hot air tool offers a unique combination of features and benefits to users of heat shrinkable products as well as many other lab and industry uses. Lightweight of only 13 oz. Insures positive control wherever precise hot air direction is required. Reduces operator fatigue. Air stream width at nozzle is ¾". Reducing baffle, included with gun, reduces air stream width to .200"; 4 baffle reflectors are included for preforms and shrink tubing applications. Reflectors are designed to decrease shrinking time by directing hot air flow around all tubing surfaces simultaneously. Delivers an air flow temperature at the nozzle of approx. 750° F to 800° F in seconds. Designed for either hand-held use, or may be placed on table or workbench without need for holder. On-off cold switch at trigger position. Allows cooling or drying as well as heat applications. For solder preforms and all polyvinyl, olefins, silicone rubber and TFE heat shrink materials; also ideal for shrink film packaging, epoxy curing and encapsulation. UL Listed. Rated 250 watts, 120 VAC only.
Ungar No. 6966C Heat Gun—3-wire model. With NEMA plug for approved grounding. Net Each.....**$59.95**

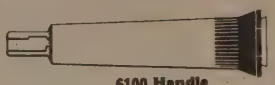
REPLACEMENT PARTS

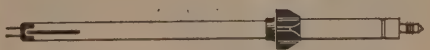
Ungar No.	Description	Net Each
168	Cone and insulator	$ 7.50
182	Heating element with diode assembly	12.42
183	Motor and scroll assembly	21.33
187	3-wire cord assembly	6.72
188	Hot-off-cold switch	4.35
189	Heat gun case	18.00
6956	½" large reflector	.77
6957	1⅛" large reflector	.77
6958	Reducing baffle	1.67
6964	Reflector for shrink tubing	3.42

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

Ungar® / Imperial® PRECISION MATCHED COMPONENTS, SOLDERING TOOL


6102 and 6103 Cord Set


6100 Handle


6200, 6201, 6202 and 6203 Heat Cartridges


6304


6305

Interchangeable cord sets, tips and heat cartridges ideal for critical micro-miniature components. Reliable, low wattage, high temperature performance. Perma-Cool handle has double cushion of air combined to 5 heat-transition surfaces for continuous cooling. Components individually packaged on cards; assemble to suit your needs. All electrical tools and components are UL Listed and rated at 120 volts AC/DC. **Not interchangeable with "Standard Line".**


6312
6313


6316

PERMA-COOL COLORED HANDLE

Cool, pastel turquoise handle has been proven to reduce operator fatigue. Virtually indestructible, handle is made of high strength plastic resin. Diecast heat sink built-in. Pencil type design for easy handling. UL Listed. Size, 0.8" O.D. at grip; 4.7" lg. Weight, 1 oz.

Ungar No. 6100—Handle only. Net Each..... **$3.98**


6318
6319


6324
6325

INTERCHANGEABLE CORD SETS

Instantly adapts your iron to any 2 or 3 wire outlet. Molded female connector plugs onto the Perma-Cool handle without tools. Vinyl-covered cord, 18 gauge, 65 strands extra-flexible copper; terminals and connectors molded polyvinyl chloride. Center conductor (3-wire type) is insulated with green polyvinyl. Weight: 2½ oz., 2-wire; 4 oz., 3-wire. Supplied in pastel turquoise color only.

Ungar No.	Description	Net Each
6102	Standard 2-wire cord set with plug	$6.05
6103	3-wire cord set with NEMA plug	8.82


6331
6481


6333

INTERCHANGEABLE LONG-LIFE HEAT CARTRIDGES

Stainless steel, sealed cartridge with element at tip and threaded end for quick tip changes; keeps heat at tip where it belongs. Four ratings available: 6200: 45 watts for 750-950° F; accepts all tip Nos. 6304 through 6482. Size, 7½" l. x .363" dia. (2½" l. from flange). Wt., 1.1 oz. **6201:** Same, but 35 watts for 650-850° F. **6202:** Same, but 25 watts for 600-800° F. **6203:** 55 watts for heat range, 850° to 1150° F (2.65" l. from flange). Accepts Imperial® MINI-TIPS® only.

Ungar Number	Rated Watts	Net Each	Ungar Number	Rated Watts	Net Each
6200	45	10.15	6202	25	$10.77
6201	35	10.15	6203	55	10.77


6366


6358


6473


6482

THREAD-ON IMPERIAL SOLDERING TIPS

For Imperial heat cartridges only. New, improved iron-clad tips are pre-tinned and chrome-plated for improved performance.

TIPS FOR 6200, 6201, 6202 OR 6203 HEAT CARTRIDGES

Ungar No.	Shape	Material	Size, In. O.D. x L.	Temp. (°F)* With Cartridge Rated 25 W	35 W	45 W	Net Each
6304	Micro-chisel	Iron clad	¾₄ x ½	750	800	890	$2.60
6305	Micro-spade	Iron clad	¾₄ x ½	750	800	890	2.60
6312	Pencil	Copper	⅛ x ¾	750	800	910	1.23
6313	Pencil	Iron clad	⅛ x ¾	6 0	750	860	2.60
6316	Offset pencil	Iron clad	⅛ x ¾	690	750	860	2.60
6318	Long taper chisel	Copper	⅛ x ¾	750	800	890	1.23
6319	Long taper chisel	Iron clad	⅛ x ¾	690	750	860	2.60
6324	Long taper pyramid	Copper	⅛ x ¾	750	800	890	1.23
6325	Long taper pyramid	Iron clad	⅛ x ¾	690	750	860	2.60
6331	Screwdriver	Iron clad	⅛ x ¾	690	750	860	2.60
6333	Needle	Iron clad	⅛ x ¾	690	750	860	2.60
6366	Long taper chisel	Iron clad	³⁄₁₆ x ¾	680	730	850	3.05
6368	Long taper pyramid	Copper	³⁄₁₆ x ¾				1.45
6473	Long taper chisel	Copper	³⁄₁₆ x ¾				1.45
6481	Tapered screwdriver	Iron clad	¾ x ³⁄₃₂	690	750	860	2.60
6482	Micro-spade stepped	Iron clad	¾₄ x ½	700	770	860	2.60

*Slight variation in line voltage will give ±25° F deviation.

ANTI-SEIZE

Ungar No. 8001—Specially formulated lubricant for use on metals operating at high temperatures. Reduces tip thread seizure and prolongs tip life. ½ oz. tube.
Net Each..... **$1.82**

QUANTITY DISCOUNTS AVAILABLE ON REQUEST

IMPERIAL COMPLETE SOLDERING IRON

Ungar No. 6010—Includes one 6100 handle, one 6102 cord set, one 6200 heat cartridge and 6318, 6368, and 6473 Mini-Tips. Net Each..... **$24.92**

Ungar Soldering & Desoldering Stations

UNGARMATIC® TEMPERATURE CONTROLLED SOLDERING STATION



Ungar No.	Description	List Each
50T6*	Complete station, 600° F	$76.58
50T7*	Complete station, 700° F	76.58
50T8*	Complete station, 800° F	76.58
60T6	Soldering iron only, 600° F	36.58
60T7	Soldering iron only, 700° F	36.58
60T8	Soldering iron only, 800° F	36.58
70B	Power supply only—includes switch, pilot lamp and power cord.	47.92
76	Thread-in heater, 600° F	21.00
77	Thread-in heater, 700° F	21.00
78	Thread-in heater, 800° F	21.00
71	Handle and cord set	16.67
72	Iron holder and mounting assembly	4.17
73	Fuse, 1 A, 3AG; pack of 5	2.22
73A	Fuse, 4 A, 3 AG; pack of 2	2.32
74	Neon lamp assembly	1.75
75	Switch and cap assembly	1.17
79	Spring-loaded tip retainer	2.10
89	Tray and sponge	3.00
91	Replacement sponge	1.12

*Includes power supply, handle and cord set, sponge tray, iron holder, heater and #87 tip.

Low-voltage, grounded three-wire system for soldering in critical equipment. Thread-together modular design allows quick, on-line heater or tip change. Specially designed handle with cool grip provides operator comfort. The stand/power supply has on-off switch and indicator light. Iron cord is super flexible, 3-wire and burn-resistant. Snap-on sponge tray can be removed and placed elsewhere. Long-life interchangeable tips are iron-clad, chrome-plated and pre-tinned. Power-supply input, 120 VAC, 60 watts; output, 24 VAC, 2 amps. Three temperature ranges; 600° F, 700° F, and 800° F. Available as complete station or individual components; power supply soldering iron, heater or tips.



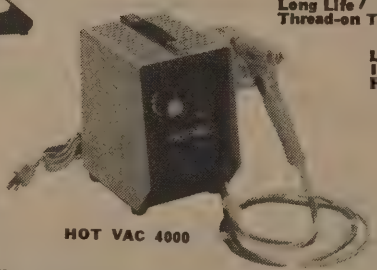
UNGARMATIC® TIPS

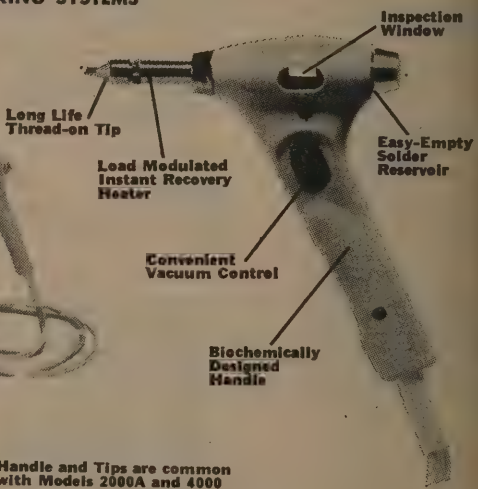
Ungar No.	Tip Description	List Each
80	Long screwdriver, 1/8"	$2.75
81	Screwdriver, 1 3/64"	2.75
82	Spade, 1/32"	2.75
83	Screwdriver, 3/32"	2.75
84	Long screwdriver, 5/64"	2.75
85	Stepped spade, 3/64"	2.75
86	Needle tip, 3/64"	2.75
87	Screwdriver, 1/16"	2.75
88	Long screwdriver, 3/64"	2.75
92	Screwdriver, 1/8"	2.75
93	Screwdriver, 1/32"	2.75
94	Short conical, 1/32"	2.75
95*	Adapter	1.70

*For micro applications. Adapter permits use of all thread-in 1/4" Tiplets and Nibs.

HOT VAC® DESOLDERING SYSTEMS







HOT VAC MODEL 2000A

The HOT VAC 2000A uses normal shop air supply to remove excess and unwanted solder from PC boards. A solid state control regulates tip temperature from 500° to 1000° F and adapts the HOT VAC 2000A to a wide variety of applications. The long-life tips are available in a range of hole sizes from .032" to .089" and are machined from an alloy which resists abrasion and erosion by the solder. The solder reservoir is located in the handle and can be emptied even while the unit is operating. The exhaust is muffled for quiet and can be fitted with a remote exhaust for clean room applications.

Ungar No. HOT VAC 2000A Desoldering System—
Net Each.....$299.95

HOT VAC MODEL 4000

Similar to the Model 2000A, except has built-in vacuum pump that operates only when the handle switch is actuated. A low-noise exhaust system and vibration isolators keep the pump quiet. The case is steel with baked-enamel finish. A convenient handle and a locking device to secure the handle permit easy transporting.

Ungar Model HOT VAC 4000 Desoldering System—
Net Each.....$399.00

Handle and Tips are common with Models 2000A and 4000

HOT VAC® TIPS

Ungar No.	Dimensions (Ins.) Inside Dia.	Outside Dia.	Depth	Length	Net Each
2005	.032	.060	.12	.75	$4.82
2006	.040	.080	.12	.75	4.82
2007	.062	.100	.12	.75	4.82
2008	.089	.120	.12	.75	4.82
2009	.062	.100	.37	1.00	4.82
2010	.032	.060	.015	.64	4.82
2011	.040	.080	.015	.64	4.82
2012	.020	.040	.12	.75	4.82

WELLER SOLDERING GUNS, KITS

MODEL 8200 DUAL HEAT SOLDERING GUN

wo trigger positions provide instant switching to high (140 watts) or low (100 watts) at. Tip heats instantly and spotlight comes on when trigger is pulled. UL Listed. vailable with 2-wire (Model 8200) or 3-wire (Model 8200-3) cord.

MODEL 8200PK DUAL HEAT SOLDERING GUN KIT

ncludes Weller dual heat 100/140 watt gun, rugged plastic utility case, three soldering ps, tip-changing wrench, flux brush, soldering aid and solder.

SERIES "D" DUAL-HEAT PROFESSIONAL GUNS

xclusive dual-heat feature saves time, adds convenience, and greatly increases tip life. riggermatic control switches instantly to high or low heat as the job requires. Tip life increased by using high heat only when necessary. No wasted time or current. Twin otlights eliminate shadows on work. Carefully engineered design provides long reach; ndles difficult jobs with ease; slips between wiring without damage to insulation. xclusive tip grip assures full constant heat; wiping action of tip-fastened nut eliminates ntact resistance and oxidation. Rated 200/260 watts. UL listed. Available with 2-wire Model D550) or 3-wire (Model D550-3) cord.

MODEL D550PK HEAVY-DUTY DUAL HEAT SOLDERING GUN KIT

eatures 240/325 watt dual heat gun, break-proof plastic carrying case, soldering, noothing and cutting tips, tip-changing wrench and solder.

SOLDERING GUN AND KITS—DEALER NET PRICES

Weller No.	Rating, Watts	Net Each, Lots of 1-11	12-47	48-Up	Weller No.	Rating, Watts	Net Each, Lots of 1-11	12-47	48-Up
200	100/140	$20.52	$18.44	$16.35	D550	200/260	$27.91	$25.07	$22.22
200-3	100/140	22.78	20.46	18.14	D550-3	200/260	30.21	27.14	24.06
200 PK	100/140	23.93	21.50	19.06	D550 PK	200/260	32.46	29.16	25.86

SOLDERING GUN REPLACEMENT TIPS

Weller No.	For Gun or Iron No.	Tip Type	Net Each	Weller No.	For Gun or Iron No.	Tip Type	Net Each
125*	8100B, 8200	Solder	$2.05	7135N†	8100, 8100B, 8200, D-440	Solder	$2.05
125N‡	8100B, 8200	Solder	2.05	6120†	8100B, 8200, D-440	Smoothing	2.05
250	8250A, D-550	Solder	2.05	6110†	8100B, 8200, D-440	Cutting	2.05
250N†	8250A, D-550	Solder	2.05	6130†	8250A, D-550	Cutting	2.05
135	8100, D-440, 8100B, 8200	Solder	2.05	6140†§	WS-200, WD-250, S-500, D-550	Smoothing	2.05

*Premium plated tip; all others copper. †With tip nuts. ‡Premium plated; with tip nuts. §Net Each.

TEMPMATIC TEMPERATURE CONTROLLED SOLDERING TOOLS

Fast and reliable. Easy to handle, weighs 7 oz. Features quick change powerhead. Comes with 3/16" chisel point, 700° F powerhead. 120 VAC.

Weller No. GT7A—Net Each, Lots of 1-11 ..... **$29.53**
Net Each, Lots of 12-47 ..... **$26.52**; 48 Up **23.51**

Weller No. GT6B—Same, but with 1/8" conical point, 600° F powerhead.
Net Each, Lots of 1-11 ..... **$29.53**; 12-47 ..... **$26.52**; 48 Up **23.51**

Weller No. 6B—Powerhead only, 1/8" conical point, 600° F. Net Each **18.70**

Weller No. 7A—Powerhead only, 3/16" chisel point, 700° F. Net Each **18.70**

Weller No. GT—Handle only, with trigger and cord. Net Each **10.82**

PROFESSIONAL SOLDERING IRONS

Extremely rugged, service grade tools. Stainless steel barrels, long life industrial grade double coated tips. Cool blue pencil handle of impact resistant plastic. Only 1¾ oz., 8" long. 120 volts. UL Listed.

Weller No. WP25 Soldering Iron—25 watts, with 1/16" screwdriver tip.
Net Each, Lots 1-11 ..... **$15.76**; 12-47 ..... **$14.16**; 48 Up **$12.58**

Weller No. WP40 Soldering Iron—40 watts, with 1/8" screwdriver tip.
Net Each, Lots 1-11 ..... **$19.37**; 12-47 ..... **$17.40**; 48 Up **$15.43**

REPLACEMENT TIPS FOR WP25 AND WP40

Weller No.	Tip Description	Net Each, Lots 1-11	12-47	48 Up	Weller No.	Tip Description	Net Each, Lots 1-11	12-47	48 Up
ST1	1/16" screwdriver	$2.57	$2.31	$2.05	ST5	1/32" single flat	$2.57	$2.31	$2.05
ST2	1/8" screwdriver	2.57	2.31	2.05	ST6	1/32" screwdriver	2.57	2.31	2.05
ST3	3/16" screwdriver	2.57	2.31	2.05	ST7	1/32" conical	2.57	2.31	2.05
ST4	5/16" screwdriver	2.57	2.31	2.05	ST8	1/16" screwdriver	2.57	2.31	2.05

PROFESSIONAL DESOLDERING/RESOLDERING TOOL

A must for servicing modern printed circuit boards and solid state equipment. Complete with .063" opening tip. 120 volts; rated 40 watts. Two-wire cord.

Weller No. DS40 Desoldering/Resoldering Tool—Net Each, Lots of 1-2 ..... **$25.10**
Net Each, Lots of 3-11 ..... **$22.60**; 12 Up **20.05**

REPLACEMENT DESOLDERING TIPS FOR DS40

Weller No.	Hole Dia., In.	Net Each, Lots of 1-11	12-47	48 Up	Weller No.	Hole Dia., In.	Net Each, Lots of 1-11	12-47	48 Up
DST1	.038	$2.37	$2.13	$1.89	DST4	.063	$2.37	$2.13	$1.89
DST2	.046	2.37	2.13	1.89	DST5	.078	2.37	2.13	1.89
DST3	.059	2.37	2.13	1.89	DST6	.090	2.37	2.13	1.89

WELLER SOLDERING IRONS ARE AVAILABLE WITH 3-WIRE CORDS. WRITE FOR PRICES.


8200

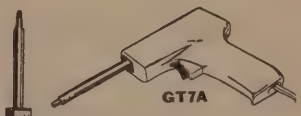


8200PK

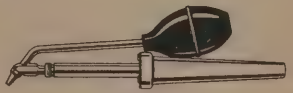

D550



D550PK


GT7A

6B


DS-40


WP25, WP40



"MARKSMAN" SOLDERING IRONS

High efficiency irons with stainless steel barrels; heat and impact resistant handles. Fo 120 V. Complete with replaceable copper plated tip and instruction booklet packed in vinyl pouch. UL Recognized.

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of 1-11	12-47	48 Up
SP-23	25	Pencil	MT-1 cone	8¼"	1¾	$ 8.10	$ 7.28	$ 6.45
SP-40	40	Pencil	MT-10, ¼" dia.	8¼"	2	10.77	9.68	8.58
SP-80	80	Med. duty	MT-20, ⅛" dia.	9¾"	4	16.18	14.54	12.88
SP-120	120	Med. duty	MT-30, ½" dia.	11¾"	10	22.11	19.86	17.61
SP-175	175	Hvy. duty	MT-40, ⅝" dia.	12½"	16	26.95	24.21	21.47
SP-23K	With SP-23 iron, 3 tips, 5' rosin core solder and aid tool with instructions					11.34	10.19	9.03

PLATED REPLACEMENT TIPS FOR "MARKSMAN" IRONS

Pkg. of 2 tips, except MT-20 to MT-40, pkg. of 1.

Weller No.	For Marksman Iron	Tip Type	Net Pkg. of 2, Lots of 1-11	12-47	48 Up
MT-1	SP-23	Cone shape	$1.80	$1.62	$1.44
MT-2	SP-23	Screwdriver	1.80	1.62	1.44
MT-3	SP-23	Chisel	1.80	1.62	1.44
MT-5	SP-23	Woodburning	1.80	1.62	1.44
MT-6	SP-23	Smoothing	1.80	1.62	1.44
MT-10	SP-40	¼" chisel	3.29	2.96	2.62
MT-20	SP-80	⅛" chisel*	3.29	2.96	2.62
MTG-30	SP-120	½" chisel*	4.71	4.23	3.75
MTG-60	SP-175	⅝" chisel*	8.05	7.23	6.41

*Price indicated is for single tip.

CONTROLLED OUTPUT SOLDERING PENCILS AND TIPS

MODEL W-TCPN LOW VOLTAGE PENCIL

Precision built transformer powered soldering station. Features low voltage, temperature controlled soldering pencil. Choice of interchangeable tips in temperature selections of 600° F, 700° F and 800° F. Includes soldering pencil, power unit, cord set and handle, iron holder, sponge tray, switch and light, and heating element. **Replacement tips available:** Ranging from ⅛" to 1¼" dia., in screwdriver, long screwdriver, narrow screwdriver, conical and single flat shapes, each in temperatures of 600° F, 700° F and 800° F. Weight per carton, 21 lbs.

Weller No. W-TCPN—
Net Each, Lots of 1–11.....**$83.60**; 12–47.....**$75.09**; 48 Up.....**$66.58**

REPLACEMENT TIPS FOR W-TCPN, W-TCP-L, TCP-1, TCP12

Tip Description	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-11	12-47	48 Up
1/16" screwdriver	PTA6	PTA7	PTA8	$2.91	$2.61	$2.31
1/16" single flat	PTAA6	PTAA7	PTAA8	2.91	2.61	2.31
3/32" screwdriver	PTB6	PTB7	PTB8	2.91	2.61	2.31
3/32" single flat	PTBB6	PTBB7	PTBB8	2.91	2.61	2.31
1/8" screwdriver	PTC6	PTC7	PTC8	2.91	2.61	2.31
1/8" single flat	PTCC6	PTCC7	PTCC8	2.91	2.61	2.31
5/16" screwdriver	PTD6	PTD7	PTD8	2.91	2.61	2.31
5/16" single flat	PTDD6	PTDD7	PTDD8	2.91	2.61	2.31
1/32" screwdriver	PTH6	PTH7	PTH8	2.91	2.61	2.31
1/32" conical	PTP6	PTP7	PTP8	2.91	2.61	2.31
1/32" single flat	PTF6	PTF7	PTF8	2.91	2.61	2.31
15/64" screwdriver	PTE6	PTE7	PTE8	2.91	2.61	2.31
3/64" long screwdriver	PTK6	PTK7	PTK8	2.91	2.61	2.31
5/64" long screwdriver	PTL6	PTL7	PTL8	2.91	2.61	2.31
1/8" long screwdriver	PTM6	PTM7	PTM8	2.91	2.61	2.31
1/32" long conical	PTO6	PTO7	PTO8	2.91	2.61	2.31
1/16" narrow screwdriver	PTR6	PTR7	PTR8	2.91	2.61	2.31

REPLACEMENT PARTS AND ACCESSORIES FOR MODEL WTCPN

Weller No.	Description	Net Each
TC201	Soldering pencil with PTA7 tip	$40.45
TC202	Power unit with sponge, iron holder and tip tray	55.74
TC203	Cord set with handle	10.45
TC204	Iron holder with funnel	2.69
TC205	Sponge	1.19
TC206	Tip tray	1.40
TC207	Switch/light assembly for power unit	7.01
TC208	Heater element for soldering pencil	10.45
SW60	Switch assembly for soldering pencil	11.64
BA60	Barrel nut assembly for soldering pencil	3.46

AC/DC FIELD SERVICE SOLDERING PENCIL

Field service soldering pencil operates from AC or DC. Two models available. **Ratings: Model TCP-12**—12–14 volts AC/DC, 2.5–2.9 amps, 30–41 watts; **Model TCP-24**—24–28 volts AC/DC, 1.7–2.0 amps, 41–56 watts. Units come complete with #PTD7 700° F, 3/16" screwdriver tip and 12-ft. power cord with battery clips.

Weller No.	Net Each, Lots of 1-11	12-47	48 Up	Weller No.	Net Each, Lots of 1-11	12-47	48 Up
TCP-12	$41.80	$37.55	$33.29	TCP-24	$41.80	$37.55	$33.29

CONTINUED ON NEXT PAGE

SOLDERING TOOL STANDS

Weller No. PH60—Bench type with base and sponge for W60, WP25, WP40, and irons with barrel dia. up to 15/32".
Weller No. PH100—Bench type with sponge for W100 and irons with barrel diameter up to 19/32".
Weller No. SFA1—Side rail type for TCP1 and irons with barrel dia. up to 3/8".
Weller No. SFA60—Side rail type for W60 and irons with barrel dia. up to 15/32".
Weller No. SFA100—Side rail type for W100 and irons with barrel dia. up to 19/32".

PRICE TABLE

Weller No.	Net Each, Lots of 1-11	12-47	48 Up
PH60	$ 9.13	$8.21	$7.28
PH100	10.25	9.21	8.17
SFA1	3.46	3.11	2.75
SFA60	3.46	3.11	2.75
SFA100	5.81	5.22	4.63

INDUSTRIAL DESOLDERING ADAPTERS

Weller No. DS-TCP—For use with WTCP and WTCP-L. Net Ea., Lots 1–11 **$16.30**; 12–47....**$14.64**; 48 Up.... **12.98**
Weller No. DS60—For use with W60. Net Each, Lots of 1–11.....**$16.30**; 12–47....**$14.64**; 48 Up.... **12.98**

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REPLACEMENT PARTS FOR MODELS WTCPN, WTCPL, TCP-12 AND TCP-24

Weller No.	Description	Net Each
TCP-1	Replacement soldering pencil with PTA7 tip for WTCPL	$38.74
SW60	Switch assembly for TCP-1 and TCP-12	11.64
HE60	Heating element	10.45
CS100HB	Cord set, silicone, with handle	9.84
BA60	Barrel nut assembly for TCP-1 and TCP-12	3.46
FP1	Fuse for PU1, PU1A, PU2 and WTCP2	2.37
LN2	Lamp assembly for WTCPL and PU2	3.46
PUS	Switch for PU2	3.46
HE12	Heating element for TCP-12	10.45
HE24	Heating element for TCP-24	10.45

TEMPERATURE-CONTROLLED DESOLDERING STATION

Stainless steel lined desoldering tips draw molten solder into see-through collecting tube which is easily cleaned and replaced. Collector tube filter prevents solder from entering and clogging vacuum tube. Vacuum is created by conversion of air pressure through a special transducer; vacuum adjustable from 5" to 20" Hg. A foot switch turns vacuum on and off. Cabinet-mounted gauge shows vacuum level. Station is designed to use factory air. Lighted on-off power switch. Quick-connect locking plug prevents accidental loss of power. Available in 700° F and 800° F versions.

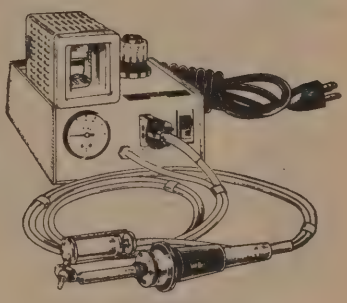


Series MP

Weller No.	Description	Net Each
DS500	Desoldering station; 1 per box	$403.74
DS501	Power supply; 1 per box	325.52
DS502	Foot switch; 1 per box	51.80
DS503	Tool holder; 1 per box	45.31
DS504	Transducer; 1 per box	64.75

SERIES MP MINIATURE SOLDERING STATION

Designed for PC electronics, and for fast and economical production soldering. Closed loop temperature control system with low voltage output. Non-burnable cord; replaceable tips in wide range of configuration. New plug-in pencil for maximum flexibility and reduced maintenance cost.



DS500

Weller No.	Description	Qty./ Box	Net Each, Lots of 1-11	12-47	48 Up
MP126	650° F soldering pencil	1	$36.39	$32.69	$28.98
MP127	750° F soldering pencil	1	36.39	32.69	28.98
MP201	Transformer with terminals	1	33.90	30.45	27.00
MP202	Sponge	10	1.40	1.26	1.12
MP213	Funnel	1	1.40	1.26	1.12
MP214	Iron holder assembly	1	2.69	2.42	2.14
MP210	Barrel nut assembly	1	3.46	3.11	2.75
MP303	Iron receptacle 10/contr circ	1	10.45	9.39	8.33
MP304	Switch w/light	1	7.01	6.30	5.59

REPLACEMENT TIPS FOR SERIES MP AND SERIES W-MCP

Weller No.	Reach, Inches	Description	Net Each, Lots of 1-11	12-47	48 Up
MP131	1/64"	Conical	$2.81	$2.52	$2.23
MP132	1/32"	Bent Conical	2.81	2.52	2.23
MP133	1/32"	Single Flat 45°	2.81	2.52	2.23
MP134	3/64"	Bent Conical	2.81	2.52	2.23
MP135	3/64"	Single Flat 45°	2.81	2.52	2.23
MP136	1/16"	Narrow Screwdriver	2.81	2.52	2.23
MP137	5/64"	Screwdriver	2.81	2.52	2.23
MP138	5/64"	Chisel	2.81	2.52	2.23



SCREWDRIVER BENT CONICAL

CONTROLLED OUTPUT INDUSTRIAL SOLDERING IRONS

Sensing device at tip assures reliable soldering; won't overheat; maintains selected maximum temperature. Two-wire cord. With 700° F tips. "Temperature Sensing" tips are available in standard industrial configurations at 600°, 700° and 800° F; see listings below. Models W60 and W100 have new blue color.



CONICAL MICRO POINT SPADE

Weller No.	Watts	Type	Tip	Overall Length	Wt., Oz.	Net Each, Lots of 1-11	12-47	48 Up
W60	60	Pencil	1/4" screwdriver	7 1/4"	2 1/2	$30.13	$27.06	$23.99
W100	100	Pencil	3/8" screwdriver	8 1/4"	3 1/2	38.41	34.50	30.59

PREMIUM PLATED REPLACEMENT TIPS FOR W60 SOLDERING IRON

For Model W60 blue series tools only.

Point Size	Description	Reach	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-11	12-47	48 Up
1/16"	Screwdriver	1 5/32"	CT5A6	CT5A7	CT5A8	$3.24	$2.91	$2.58
3/32"	Screwdriver	1 5/32"	CT5B6	CT5B7	CT5B8	3.24	2.91	2.58
1/8"	Screwdriver	1 5/32"	CT5C6	CT5C7	CT5C8	3.24	2.91	2.58
5/16"	Screwdriver	1 5/32"	CT5D6	CT5D7	CT5D8	3.24	2.91	2.58
1/4"	Screwdriver	1 5/32"	CT5E6	CT5E7	CT5E8	3.24	2.91	2.58



W-60



W-100

PREMIUM PLATED REPLACEMENT TIPS FOR W100 SOLDERING IRON

For Model W100 blue series tools only.

Point Size	Description	Reach	Weller Number 600° F	700° F	800° F	Net Each, Lots of 1-11	12-47	48 Up
1/8"	Screwdriver	1 5/32"	CT6C6	CT6C7	CT6C8	$4.64	$4.17	$3.70
3/16"	Screwdriver	1 5/32"	CT6D6	CT6D7	CT6D8	4.64	4.17	3.70
1/2"	Screwdriver	1 5/32"	CT6E6	CT6E7	CT6E8	4.64	4.17	3.70
5/8"	Screwdriver	1 5/32"	CT6F6	CT6F7	CT6F8	4.64	4.17	3.70

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REPLACEMENT AND REPAIR PARTS FOR MODELS W60, W100 AND W200

Weller No.	Description	Net Each
HA1B	Handle for W60 and W100	$3.46
CS3HB	Cord set (2-wire), strain relief and handle assembly for W60 and W100	8.08
CS4HB	Cord set (3-wire), strain relief and handle assembly for W60 and W100	10.27
HEW60	Heating element for W60	13.91
HEW100	Heating element for W100	16.30
SW60	Switch assembly for W60	11.64
SW100	Switch assembly for W100	11.64
KN60	Knurled tip nut (use only with "5" series tips) for W60, TC552 (3/16" hole)	1.19
KN60A	Knurled tip nut (use only with "CT5" series tips) for W60 (1/4" hole)	1.19
KN100A	Knurled tip nut (use only with "CT6" series tips) for W100 (3/8" hole)	1.19

DESOLDER AND SOLDER STATION

Power vacuum desoldering station designed for PC board repair. Closed loop temperature control protects sensitive components. See-thru solder is easy to clean or replace. Non-burnable cord for safety and long life. High impact resistant tool handles and stainless steel barrels. Operates from factory air and line voltage. Complete with foot switch, indicating light/on-off switch, twin safety tool holder, vacuum adjustment and gauge, tip and sponge holder, five assorted tips and instruction manual. Beige with blue tool handles.

Weller No.	Description	Net Each
DS100	Desolder and solder station; 1 per box	$685.35
DS101	Soldering iron; 1 per box	43.94
DS102	Desoldering iron; 1 per box	66.00
DS103	Collector tube; 5 per box	4.11
DS104	Clean out tool; 5 per box	4.11
DS105	Sponge holder with sponge and tool; 1 per box	13.91
DS106	Sponge; 10 per box	2.69
DS107	Tool holder; 1 per box	53.86
DS201	Fuses; 5 per card	1.19
DS202	Installation kit; 1 per box	38.84
SW60	Switch assembly; 1 per box	11.64
HE60	Heating element; 1 per box	10.45
BA60	Barrel nut assembly; 1 per box	3.46
DS204	Filter sponge; 10 per box	.75
DS217		34.85
DS218		34.85

REPLACEMENT TIPS FOR SOLDER AND DESOLDER STATION

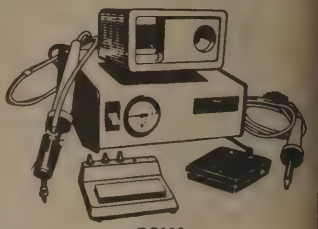
Weller No.	Size*, Inches	Net Each	Weller No.	Size*, Inches	Net Each
DS110	.060 x .025 x .50	$6.38	DS114	.125 x .071 x .50	$6.38
DS111	.090 x .025 x .50	6.38	DS115	.060 x .025 x .75	6.38
DS112	.076 x .036 x .50	6.38	DS116	.098 x .045 x .75	6.38
DS113	.098 x .045 x .50	6.38	DS117	.090 x .025 x .75	6.38

*O.D. x I.D. x Length; all tips packed 5 per card.

MINI-SHOP KIT

Mini-Shop kit contains 46 pieces: Mini-Shop power unit, 3 adapter collets, storage case, owner's manual, 7 grinding/sharpening wheels and points, 3 cleaning brushes, 6 cut-off wheels, 2 routing bits, 2 polishing wheels, 12 abrasive discs, 3 abrasive bands, 1 expanding drum, 1 drill bit, 1 mandrel, 1 chuck wrench and 1 dressing stone. Weight per carton, 8½ lbs.

Weller Mini-Shop Kit Number 601K—Net Each, Lots of 1–11 ..... **$51.32**
Net Each, Lots of 12–47 ..... **$46.10**; 48 Up **40.87**



DS100



DS110



DS115



601K

MINI-SHOP ACCESSORIES

Weller No.	Description	Net Each
MS201	Bristle brush, cup	$1.10
MS202	Bristle brush, disc	1.10
MS203	Wire brush	1.10
MS204	Abrasive band, 50 grit; 6/pack	1.10
MS205	Abrasive band, 120 grit; 6/pack	1.10
MS206	Sanding disc, 80 grit; 12/pack	1.10
MS207	Sanding disc, 120 grit; 12/pack	1.10
MS208	Felt polishing wheel; 6/pack	1.10
MS209	Abrasive rubber wheel; 2/pack	1.10
MS210	Cut-off wheel; 3/pack	1.10
MS211	Expanding drum	1.10
MS212	Mandrel	1.10
MS213	Ball cutter, 1/4" dia.	3.47
MS214	Cylinder cutter, 1/4" dia.	3.47
MS215	Adapter collet, 1/8"	1.10
MS216	Adapter collet, 1/16"	$1.10
MS217	Adapter collet, 3/32"	1.10
MS218	Adapter collet, 1/8"	1.10
MS219	Grinding wheel, 1/4" x 1/2"	1.10
MS220	Grinding wheel, 1/2" x 3/8"	1.10
MS221	Grinding wheel, 3/4" x 3/8"	1.10
MS222	Grinding wheel, 1/8" x 3/4", silicon	1.10
MS223	Grinding point, 1/4" x 5/8"	1.10
MS224	Grinding point, 5/8" x 1/4"	1.10
MS225	Grinding point, 1/2" x 1/16"	1.10
MS226	Dressing stone	1.10
MS227	Drill bit, 1/16"	1.10
MS228	Chuck wrench	1.10
MS229	Goggles	4.21
MS231	Replacement motor brushes, 2/pack	3.47

XCELITE® Professional Hand Tools

PLIERS AND SNIPS

CHAIN NOSE ELECTRICIAN'S PLIERS



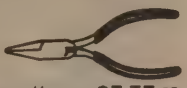
Xcelite No. 59CG—8" pliers with long reach and high leverage. Rugged construction.....$10.49 ea.

DIAGONAL PLIERS



Xcelite No. 64CG—4" electronic diagonal pliers....$10.72 ea.
Xcelite No. 54CG—Midget 4" size..... 7.98 ea.
Xcelite No. 55CG—5" pliers for most cutting needs... 8.62 ea.
Xcelite No. 66CG—6" all-purpose..... 9.05 ea.
Xcelite No. 67CG—7" heavy duty..... 8.87 ea.

LONG NOSE PLIERS



Xcelite No. 41CG—Midget 4" without side cutters...$7.77 ea.
Xcelite No. 52CG—6½" long nose, without side cutters. 7.20 ea.
Xcelite No. 51CG—6½" long nose, with side cutters.. 8.95 ea.

NEEDLE NOSE PLIERS



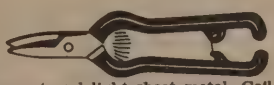
Xcelite No. 56CG—6" size. Long slim jaws permit entry where regular long nose pliers won't work.....$9.47 ea.
Xcelite No. 57CG—5½" pliers with fine serrated jaws and coil spring. For firm gripping and looping of wire.....$9.35 ea.

RADIO AND TV PLIERS



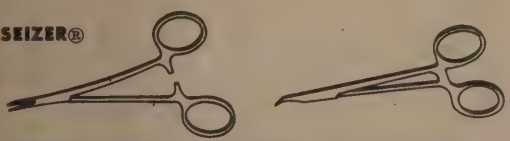
Xcelite No. 58CG—6" pliers with extreme tip for gripping, sharp 3/16" cutting edges 3/16" back from tip.....$10.97 ea.
Xcelite No. 69CG—5" fine pointed pliers with serrated tips for delicate work. Sharp 3/16" cutting edges 1/8" back from tips for fine wires.....$11.71 ea.

ELECTRONIC SNIPS



Designed to cut fine wire, filament and light sheet metal. Coil springs.
Xcelite No. 86CG—Pointed 1½" blade.....$10.99 ea.

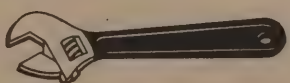
SEIZER®



Versatile tools clamp wires for soldering, act as heat sinks.

Xcelite No.	Description	Ea.
42H	6" Straight Nose Seizer	$11.74
43H	6" Curved Nose Seizer	11.74
32H	5" Straight Nose Jr. Seizer	11.36
33H	5" Curved Nose Jr. Seizer	11.74

ADJUSTABLE WRENCHES



Xcelite No.	Length	Max. Opening	Ea.
44CG	4"	½"	$8.25
46CG	6"	¾"	8.33
48CG	8"	1 7/16"	9.44

MINIATURE ELECTRONIC PLIERS

FLAT NOSE PLIERS



Xcelite No. 70CG—5" long for fine work. No cutters.$12.34 ea.

ROUND NOSE PLIERS



Xcelite No. 71CG—4½" long. For looping and forming fine wires.....$8.82 ea.

CHAIN NOSE PLIERS



Xcelite No. 72CG—5" long with thin chain nose.....$8.97 ea.

SPECIAL TIP CUTTING PLIERS



Xcelite No. 73CG—4½" long. 45° oblique cutting tip.$14.28 ea.

DIAGONAL CLOSE AND FLUSH CUTTING PLIERS



Xcelite No. 74CG—4" long for fast, clean tip cutting. Fine tapered nose and near-flush cutting edges.....$11.11 ea.
Xcelite No. 84CG—4" full flush cutting, thin tapered jaws and pointed nose.....$11.67 ea.
Xcelite No. 95CG—5" full flush cutting with pointed nose.....$11.04 ea.

BENT THIN CHAIN NOSE PLIERS



Xcelite No. 79CG—5" long with fine serrated jaws, radius edges; 60° angle thin bent nose.....$12.34 ea.

ADJUSTABLE UTILITY PLIERS



Xcelite No. 50CG—5" slip joint ignition pliers.....$7.18 ea.
Xcelite No. 53CG—7" utility plier..... 6.56 ea.
Xcelite No. 63CG—10" utility plier..... 8.40 ea.

WIRE, COAX STRIPPERS AND CUTTERS



Xcelite No. 100-X—Adjustable screws top for different wire sizes, cushion grips. Cuts and strips both solid and stranded wire, cleanly and neatly. Hardened and ground blades.....$3.24 ea.
Xcelite No. 101-S—Same as No. 100 except with spring equipped self-opening handles.....$4.09 ea.
Xcelite No. 103-S—Unique cam stop adjustment for different wire sizes.....$5.04 ea.

SIDE CUTTING PLIERS



Xcelite No. 60CG—6" Electrician's.....$ 9.17 ea.
Xcelite No. 68CG—8" Lineman's..... 11.41 ea.

HEAT SINK



Xcelite No. 88—Heat Sink.....$3.49 ea.

ALL PLIERS, SNIPS AND WRENCHES AVAILABLE WITH COMFORTABLE "CUSHION GRIP" (CG) HANDLES AS STANDARD



ROUND BLADE SCREWDRIVERS (For Slotted Screws)

Blades forged from tough AISI 6150 chrome vanadium steel. Shockproof, breakproof, amber plastic handles.

POCKET CLIP STYLE

Xcelite No.	Blade	Handle	Overall	1-11	12-47
R3322	3/32" x 2"	1/4" x 2 1/4"	4 1/4"	$1.02	$0.92
R3323	3/32" x 3"	1/4" x 2 1/4"	5 1/4"	1.14	1.02
R3324	3/32" x 4"	1/4" x 2 1/4"	6 1/4"	1.20	1.08
R181	1/8" x 2"	1/4" x 2 1/4"	4 1/4"	1.04	.93
R183	1/8" x 3"	1/4" x 2 1/4"	5 1/4"	1.20	1.08

REGULAR

Xcelite No.	Blade	Handle	Overall	1-11	12-47
R182	1/8" x 2"	1/4" x 2 3/8"	4 5/8"	$1.20	$1.08
R184	1/8" x 4"	1/4" x 2 3/8"	6 5/8"	1.62	1.46
R186	1/8" x 6"	1/4" x 2 3/8"	8 5/8"	1.77	1.59
R188	1/8" x 8"	1/4" x 2 3/8"	10 5/8"	1.90	1.71
R1810	1/8" x 10"	1/4" x 2 3/8"	12 5/8"	2.00	1.80
R5323	5/32" x 3"	1/4" x 2 3/8"	5 5/8"	1.49	1.34
R5324	5/32" x 4"	1/4" x 2 3/8"	6 5/8"	1.49	1.34
R5325	5/32" x 5"	1/4" x 2 3/8"	7 5/8"	1.62	1.46
R5328	5/32" x 8"	1/4" x 2 3/8"	10 5/8"	2.00	1.80
R3163	3/16" x 3"	1" x 3 5/8"	6 5/8"	2.05	1.85
R3164	3/16" x 4"	1" x 3 5/8"	7 5/8"	2.35	2.12
R3166	3/16" x 6"	1" x 3 5/8"	9 5/8"	2.56	2.30
R3168	3/16" x 8"	1" x 3 5/8"	11 5/8"	2.77	2.49
R144	1/4" x 4"	1 1/8" x 4 1/2"	8 1/8"	2.72	2.45
R146	1/4" x 6"	1 1/8" x 4 1/2"	10 1/8"	2.94	2.64
R148	1/4" x 8"	1 1/8" x 4 1/2"	12 1/8"	3.17	2.85
R1410	1/4" x 10"	1 1/8" x 4 1/2"	14 1/8"	3.34	3.00
R5164	5/16" x 4"	1 1/4" x 4 1/2"	8 1/2"	3.11	2.79
R5166	5/16" x 6"	1 1/4" x 4 1/2"	10 1/2"	3.34	3.00
R5168	5/16" x 8"	1 1/4" x 4 1/2"	12 1/2"	3.54	3.18
R388	3/8" x 8"	1 3/8" x 4 1/2"	12 1/2"	4.41	3.96

PHILLIPS TYPE SCREWDRIVERS

Chrome vanadium steel blades. Precision points. Shockproof, breakproof, amber plastic handles.

POCKET CLIP STYLE

Xcelite No.	Point	Blade	Handle	Overall	1-11	12-47
P12S	#0	1/8" x 2"	1/2" x 2 1/4"	4 1/4"	$1.32	$1.19

STUBBY STYLE

Xcelite No.	Point	Blade	Handle	Overall	1-11	12-47
SX101	#1	3/16" x 1 7/16"	1 3/4" x 2"	3 7/16"	$2.15	$1.94
SX102	#2	1/4" x 1 9/16"	1 3/8" x 2"	3 3/8"	2.45	2.21

REGULAR

Xcelite No.	Point	Blade	Handle	Overall	1-11	12-47
X100	#0	1/8" x 2"	1/4" x 2 3/8"	4 5/8"	$1.49	$1.34
X101	#1	3/16" x 3"	1" x 3 5/8"	6 5/8"	2.04	1.83
X108	#1	3/16" x 6"	1" x 3 5/8"	9 5/8"	2.57	2.31
X102	#2	1/4" x 4"	1 1/8" x 4 1/2"	8 1/8"	2.74	2.46
X103	#3	5/16" x 6"	1 1/4" x 4 1/2"	10 1/2"	3.81	3.42
X104	#4	3/8" x 8"	1 3/8" x 4 1/2"	12 1/2"	4.94	4.44

EXTRA LONG

Xcelite No.	Point	Blade	Handle	Overall	1-11	12-47
X1010	#1	3/16" x 10"	1" x 3 5/8"	13 3/8"	$3.34	$3.00
X1020	#2	1/4" x 10"	1 1/8" x 4 1/2"	14 1/8"	3.77	3.39

"SUPER-TRU" PHILLIPS SCREWDRIVERS

Precision made Phillips screwdrivers have "Super-Tru" tips for close fit, long wear, and reduced possibility of damage to screw head recesses, especially in small size fasteners. Bright nickel chrome blades with tips specially treated and black-oxide finished for ultimate dimensional control. Black plastic handles.

Xcelite No.	Point	Blade	Handle	Overall	1-11	12-47
XST-100	0	1/8" x 2"	1/4" x 2 3/8"	4 5/8"	$1.85	$1.67
XST-101	1	3/16" x 3"	1" x 3 5/8"	6 5/8"	2.57	2.31
XST-102	2	1/4" x 4"	1 1/8" x 4 1/2"	8 1/8"	3.27	2.94
XST-1010	1	3/16" x 10"	1" x 3 5/8"	13 5/8"	3.91	3.51
XST-1020	2	1/4" x 10"	1 1/8" x 4 1/2"	14 1/8"	4.36	3.92



COLOR-CODED NUTDRIVERS (1 1/4" Hole Depth)

Steel shafts with precision, cold-drawn, case-hardened sockets. Color-coded, plastic handles.

MIDGET POCKET CLIP STYLE

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-11	12-47
P3	Blue	3/32"	1 1/4"	1/4" x 2 1/4"	3 1/2"	$1.45	$1.31
P4	Red	1/4"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P5	Amber	5/32"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P6	Black	3/16"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P7	Brown	7/32"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P8	Red	1/4"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P9	Orange	9/32"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P10	Amber	5/16"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P11	Green	11/32"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31
P12	Blue	3/8"	1 1/4"	1/4" x 2 1/4"	3 1/2"	1.45	1.31

REGULAR

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-11	12-47
6	Black	3/16"	3"	1 1/16" x 3 1/8"	6 1/8"	$2.14	$1.92
7	Brown	7/32"	3"	1 1/16" x 3 1/8"	6 1/8"	2.14	1.92
8	Red	1/4"	3"	1 1/16" x 3 1/8"	6 1/8"	2.14	1.92
9	Orange	9/32"	3"	1 1/16" x 3 1/8"	6 1/8"	2.14	1.92
10	Amber	5/16"	3"	1 1/16" x 3 1/8"	6 1/8"	2.14	1.92
11	Green	11/32"	3"	1 1/16" x 3 1/8"	6 1/8"	2.27	2.04
12	Blue	3/8"	3"	1 1/16" x 3 1/8"	6 1/8"	2.27	2.04
14	Brown	7/16"	2 7/8"	1 1/8" x 4 1/2"	7"	2.92	2.63
16	Red	1/2"	2 7/8"	1 1/8" x 4 1/2"	7"	2.92	2.63

COLOR-CODED HOLLOW SHAFT NUTDRIVERS

General purpose nutdrivers especially useful where nuts must be installed over long protruding bolts or studs.

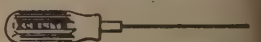
REGULAR

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-11	12-47
HS6	Black	3/16"	3 1/2"	1 1/16" x 3 1/8"	6 1/2"	$2.45	$2.21
HS7	Brown	7/32"	3 1/2"	1 1/16" x 3 1/8"	6 1/2"	2.45	2.21
HS8	Red	1/4"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	2.45	2.21
HS9	Orange	9/32"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	2.45	2.21
HS10	Amber	5/16"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	2.45	2.21
HS11	Green	11/32"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	2.59	2.33
HS12	Blue	3/8"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	2.59	2.33
HS14	Brown	7/16"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	3.34	3.00
HS16	Red	1/2"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	3.34	3.00
HS18	Orange	9/16"	3 1/2"	1 1/16" x 4 1/8"	7 1/2"	3.34	3.00

EXTRA LONG (HOLE DEPTH: AG-12, 6 1/4")

Xcelite No.	Color	Hex	Blade	Handle	Overall	1-11	12-47
L6	Black	3/16"	6	1 1/16" x 3 1/8"	9 1/2"	$2.99	$2.69
L8	Red	1/4"	6	1 1/16" x 4 1/8"	9 1/2"	2.99	2.69
L10	Amber	5/16"	6	1 1/16" x 4 1/8"	9 1/2"	2.99	2.69
L11	Green	11/32"	6	1 1/16" x 4 1/8"	9 1/2"	3.19	2.87
L12	Blue	3/8"	6	1 1/16" x 4 1/8"	9 1/2"	3.19	2.87

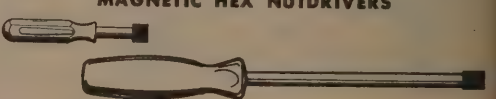
ALLEN HEX TYPE SCREWDRIVERS



Alloy steel blades. Shockproof, breakproof, plastic handles.

No.	Hex	Blade	Handle	Overall	1-11	12-47
LN-20	.050"	4"	7/8" x 2 5/8"	6 3/8"	$2.14	$1.92
LN-21	1/16"	4"	7/8" x 2 5/8"	6 3/8"	2.14	1.92
LN-22	5/64"	4"	7/8" x 2 5/8"	6 3/8"	2.14	1.92
LN-23	3/32"	4"	1 1/16" x 3 1/8"	7 1/8"	2.14	1.92
LN-764	7/64"	4"	1 1/16" x 3 1/8"	7 1/8"	2.14	1.92
LN-24	1/8"	4"	1 1/16" x 3 1/8"	7 1/8"	2.32	2.09
LN-964	9/64"	4"	1 1/16" x 3 1/8"	7 1/8"	2.32	2.09
LN-25	5/32"	6"	1" x 3 1/8"	9 1/8"	2.32	2.09
LN-26	3/16"	6"	1 1/8" x 4 1/8"	10 1/8"	2.32	2.09
LN-27	7/32"	6"	1 1/8" x 4 1/8"	10 1/8"	2.57	2.31
LN-28	1/4"	6"	1 1/8" x 4 1/8"	10 1/8"	2.57	2.31

MAGNETIC HEX NUTDRIVERS

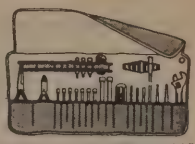


Nut and hex screw holding.

Xcelite No.	Color	Hex	Blade	Overall	1-11	12-47
S-M	Red	1/4"	3"	6 1/8"	$3.42	$3.08
10-M	Amber	5/16"	3"	6 1/8"	3.42	3.08
L-8M	Red	1/4"	6"	10 1/8"	4.33	3.89
L-10M	Amber	5/16"	6"	10 1/8"	4.33	3.89

Xcelite No.	Color	Hex	Blade	Overall	1-11	12-47
LL-8M	Red	1/4"	16 3/4"	20 7/8"	$10.00	$8.99
LL-10M	Amber	5/16"	16 3/4"	20 7/8"	10.00	8.99

SERIES 99 SERVICE KITS



Xcelite No. 99SM—23-Piece Service Master Kit—Durable, plastic-coated canvas case contains 6" long nose Cushion Grip" pliers, 5" diagonal Cushion Grip" pliers, 6" thin-pattern adjustable wrench, regular (1⅛" x 4¼") and stubby (1⅛" x 2") plastic handles for interchangeable blades, 9 regular (3/16" thru ½") and stubby (¼", 5/16", ⅜") nutdriver blades, a #1 Phillips screwdriver blade, 3/16" and ¼" slotted screwdriver blades, ⅛" to ⅜" and ¼" to ½" reamer blades, 7" extension blade..... **$73.93 ea.**

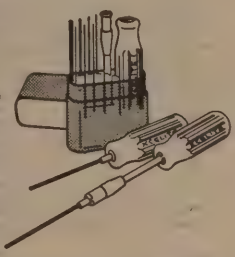


Xcelite No. 99MP—39-Piece Multi-Purpose Kit—Plastic-coated canvas case folds into compact package. Kit includes regular (1⅛" x 4¼") and Tee (1" x 3⅜") plastic handles and following interchangeable blades: 10 nutdriver (5/32" thru ½"), 9 Allen hex type screwdriver (.050" thru 3/16"), 9 Bristol Multiple-Spline screwdriver (.048" thru .183"), 3 slotted screwdriver (3/16", ¼" and 5/16"), 2 Phillips screwdriver (#1 and #2), 2 reamers (⅛" to ⅜" and ¼" to ½"), awl and 4" extension..... **$82.83 ea.**



Xcelite No. 99PR—14-Piece Nutdriver/Screwdriver Kit—Regular size (1⅛" x 4¼") Series 99 handle and following blades: 9 nutdriver (3/16" thru ½"), 3/16" and ¼" slotted screwdriver, #1 and #2 Phillips screwdriver. Roll-up plastic case. ..... **$32.28 ea.**

SERIES 99 COMPACT SETS



Pocket size, plastic cases pack an unusual number of tools into a small space. Flat bottom of case permits its use as bench stand. Series 99 blades are interchangeable in handle supplied with each set.

Xcelite No. 99PS-40—11-Piece Allen Hex Type Screwdriver Set—Regular size (1⅛" x 4¼") Series 99 handle, 9 Allen hex type screwdriver blades (.050" thru 3/16"), 4" extension blade..... **$20.04 ea.**

Xcelite No 99PS-50—14-Piece Nutdriver/Screwdriver Set—Regular size (1⅛" x 4¼") Series 99 handle and following blades: 7 nutdriver (3/16" thru ⅜"), 3/16" and ¼" slotted screwdriver, #1 and #2 Phillips screwdriver, 4" extension..... **$25.25 ea.**

Xcelite No. 99PS-60—11-Piece Bristol Screwdriver Set—For Bristol Multiple-Spline socket screws. Regular size (1⅛" x 4¼") Series 99 handle, 9 Bristol screwdriver blades (.048"/4-flute thru .183"/6-flute), 4" extension blade..... **$20.04 ea.**

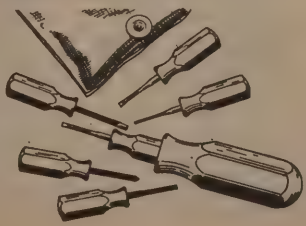
SERIES 99 REVERSIBLE RATCHET HANDLES



Unique plastic ratcheting handles fit over 60 different Xcelite blades—nutdrivers, screwdrivers and special purpose interchangeable blades—to speed up assembly and service work. Ratchet mechanism is fully enclosed to keep out dirt and grit. Recessed reversing shift is easily operated by a flick of the thumb; cannot be accidentally tripped while driving. Light ratchet drag for easy turning. Mechanism is fully contained within handle.

Xcelite No.	Description	Color	Size	1-11	12-47
99-1-R	Ratchet handle	Black	1¼" x 4½"	$13.34	$11.99
99-4-R	Ratchet handle	Black	3½" x 2⅝"	13.34	11.99

MINI SCREWDRIVER SET

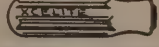


Xcelite No. M-60—Six piece miniature screwdriver set includes one #00 Phillips driver, 5 slotted drivers (.040" thru .100") and torque amplifier handle. ⅞" blade lengths; 2½" overall ..... **$5.86 ea.**

SERIES 99 HANDLES & INTERCHANGEABLE BLADES

Shockproof, breakproof plastic handles have patented spring device that holds blades firmly yet permits easy insertion and removal.





HANDLES

Xcelite No.	Size and Description	Working Length	1-11	12-47
99-1	Regular, 1⅛" x 4⅛"	.....	$1.94	$1.74
99-2	Junior, 1" x 3⅛"	.....	1.85	1.67
99-3	Stubby, 1⅛" x 2"	.....	1.84	1.65
99-4	Tee, 1⅜" x 3⅛"	.....	2.52	2.27

NUTDRIVERS



99-6	5/32"	3⅝"	$1.84	$1.65
99-7	3/16"	3⅝"	1.84	1.65
99-8	¼"	3⅝"	1.84	1.65
99-S8	¼" Stubby	1⅝"	1.45	1.31
99-9	5/16"	3⅝"	1.84	1.65
99-10	⅜"	3⅝"	1.84	1.65
99-S10	⅜" Stubby	1⅝"	1.45	1.31
99-11	7/16"	3⅝"	1.92	1.73
99-12	½"	3⅝"	1.92	1.73
99-S12	½" Stubby	1⅝"	1.45	1.31
99-14	9/16"	4"	2.47	2.22
99-16	⅝"	4"	2.47	2.22

MAGNETIC NUTDRIVERS

99-8M	¼"	3⅝"	$2.25	$2.03
99-10M	5/16"	3⅝"	2.25	2.03

ALLEN HEX TYPE SCREWDRIVERS



Xcelite No.	Size and Description	Working Length	1-11	12-47
99-20	.050"	4"	$1.67	$1.50
99-21	5/64"	4"	1.67	1.50
99-22	3/32"	4"	1.67	1.50
99-23	7/64"	4"	1.67	1.50
99-764	1/16"	4"	1.67	1.50
99-24	5/64"	4"	1.67	1.50
99-964	3/32"	4"	1.67	1.50
99-25	7/64"	4"	1.67	1.50
99-26	1/16"	4"	1.67	1.50

BRISTOL TYPE MULTIPLE-SPLINE SCREWDRIVERS



99-61	.048", 6-flute	4"	$1.67	$1.50
99-62	.060", 6-flute	4"	1.67	1.50
99-63	.069", 4-flute	4"	1.67	1.50
99-64	.072", 6-flute	4"	1.67	1.50
99-65	.076", 4-flute	4"	1.67	1.50
99-66	.096", 6-flute	4"	1.67	1.50
99-67	.111", 6-flute	4"	1.67	1.50
99-68	.145", 6-flute	4"	1.67	1.50
99-69	.183", 6-flute	4"	1.67	1.50

SLOTTED SCREWDRIVERS



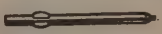
99-125	⅛"	3⅞"	$1.84	$1.65
99-811	3/16"	3⅞"	1.84	1.65
99-250	¼"	3⅞"	1.84	1.65
99-312	5/16"	3⅞"	1.84	1.65

PHILLIPS SCREWDRIVERS



Xcelite No.	Size and Description	Working Length	1-4 ea.	5 Up ea.
99-820	#0	3⅞"	$1.84	$1.65
99-821	#1	3⅞"	1.84	1.65
99-822	#2	3⅞"	1.84	1.65

SCRULOX® SCREWDRIVERS



99-SL-0	#0	4"	$1.84	$1.65
99-SL-1	#1	4"	1.84	1.65
99-SL-2	#2	4"	1.84	1.65
99-SL-3	#3	4"	1.84	1.65

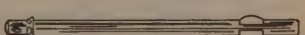
REAMERS



99-38	⅛" to ⅜"	4⅛"	$4.73	$4.25

ADAPTERS

For use with ¼" square drive sockets.



EXTENSION BLADES



99-X5	Extension	4"	$2.52	$2.27
99-X10	Extension	7"	2.74	2.46

"TRAY BIEN" NUTDRIVER SETS

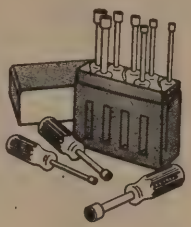


Durable, molded plastic trays with fold-away stand, wall-mounting holes and snap-lock arrangement to hold tools firmly. Nutdrivers have color-coded, shockproof, breakproof plastic handles. Precision, case-hardened sockets.

Xcelite No. 127TB—Seven nutdrivers (3/16" thru 1/4" hex sizes) with 1 1/4" deep bolt clearance hole in shaft..... **$15.20 ea.**

Xcelite No. 147TB—Seven hollow shaft (1/4" thru 1/2" hex sizes) nutdrivers..... **$19.22 ea.**

"KEEP AND CARRY" NUTDRIVER SET



Sturdy yellow plastic case keeps color-coded nutdrivers in order on workbench. Tight fitting, snap-lock covers permit carry-out convenience without spilling or losing them in tool box.

Xcelite No. HS6-18 Hollow Shaft Nutdriver Set—Ten hex sizes 3/16" thru 9/16"..... **$27.47 ea.**

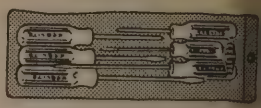
NUTDRIVER SETS

Popular sizes of color-coded nutdrivers in handy plastic case with eyelet for hanging.

Xcelite No. 157 7-Piece Nutdriver Set—Shafts have 1 1/4" clearance hole depth. Includes 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" hex sizes. Overall length, 6 1/8" except 7/16" and 1/2" sizes, 6 3/4" long. Color-coded handles..... **$16.77 ea.**

Xcelite No. 177 7-Piece Hollow Shaft Nutdriver Set—Includes 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" and 1/2" sizes. Overall, 7 1/4" except 5/16" size, 6 1/4". Shaft, 3 1/8". Color-coded handles.... **$19.22 ea.**

SCREWDRIVER SETS

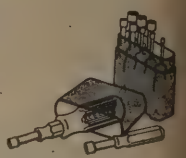


Xcelite No. SDR-11 5-Piece Screwdriver Set—Round blade for slotted screws. Includes 1/8", 5/32", 3/16", 1/4" and 5/16" blade dia. Overall, 4 5/8" to 10 1/4". Blade length, 2" to 6"..... **$11.31 ea.**

Xcelite No. SDX-22 5-Piece Phillips Screwdriver Set—Includes sizes 0, 1, 2 and 3 with blade lengths from 2" to 6", overall length from 4 5/8" to 10 1/2"; plus a #2 stubby Phillips, 1 5/16" blade, 3 1/8" overall..... **$12.53 ea.**

Xcelite No. SD-3V 3-Piece Screwdriver Set—Includes three pocket-clip type.: 3/32" and 1/8" slotted and #0 Phillips..... **$3.41 ea.**

COMPACT SCREWDRIVER, NUTDRIVER AND HEX DRIVER SETS



Torque amplifier hollow handle slips over tops of midget tools (all 3 1/2") for larger grip, extended reach and increased driving power. See-thru plastic case fits pocket.

Xcelite No. PS7 Screwdriver/Nutdriver Set—Two (1/4", 5/16") nutdrivers; 2 slot-tip (3/32", 3/8") and 2 Phillips (#0, 1) screwdrivers..... **$9.84 ea.**

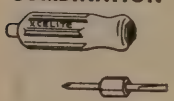
Xcelite No. PS88 Screwdriver Set—Five slot-tip (3/32", 1/8", 5/32", 3/16", 1/4"), 3 Phillips (#0, 1 and 2). **$12.63 ea.**

Xcelite No. PS120 Nutdriver Set—Ten (1/8" thru 3/16") nutdrivers..... **$15.92 ea.**

Xcelite No. PS130 Screwdriver/Nutdriver Set—Contains Phillips (#1, 2); 3 slotted (1/8", 3/16" and 1/4") and 5 (3/16" thru 1/8") nutdrivers..... **$16.47 ea.**

Xcelite No. PS89 Hex Driver Set—Contains eight midget Allen hex type drivers in sizes from .028" to 1/8"..... **$11.79 ea.**

COMBINATION SCREWDRIVER/NUTDRIVER SET



Xcelite No. 600—Handy 4-way tool with 1/4" and 7/16" hex openings in handle. Stubby blade has #1 Phillips and 3/16" slotted ends.
Lots 1-11..... **$4.73 ea.**
Lots 12-47..... **4.25 ea.**

ELECTRICIAN'S KNIFE



Xcelite No. K22—Combination knife and screwdriver. Screwdriver blade has sharp edge for scraping insulation. Has positive lock when open..... **$9.15 ea.**

TOOL HOLSTER



Xcelite No. 150—Handy tool holster has tape holder, knife clip, and five tool pockets. Durable construction of saddle leather with natural cowhide finish. Comfortable hip-contoured back, hot-waxed stitching, brass rivets. Tools not included..... **$17.62 ea.**

Xcelite No. PS44 Screwdriver Set—Contains 3/4" slotted driver 1/4" nutdriver and four sizes of square recessed drivers **$11.62 ea.**

Xcelite No. PS121MM Metric Nutdriver Set—Contains 10 metric drivers from 3 mm to 10 mm..... **$19.66 ea.**

Xcelite No. PS90MM Metric Allen Hex Set—Contains 8 Allen Hex drivers from 0.89 mm to 5 mm..... **$13.34 ea.**



ATTACHE STYLE TOOL CASES

Quality tool cases built to last for the field engineer and technician/serviceman. Outfitted with wide variety of Xcelite screwdrivers, nutdrivers, hex drivers, pliers, wrenches, wire strippers and more. Plenty of space in bottom of case for soldering equipment, meters, test equipment, parts, etc. Tool pallets are removable. Lid has literature pocket. Two styles—TC 100/ST, illustrated, with 53 single tools and 3 sets; TC 150/ST with 23 single tools, 1 set and soldering iron; and TC 200/ST with 10 single tools and 1 set.

Xcelite No. TC 100/ST—Case with tools..... **$408.37 ea.**
Xcelite No. TC 100/MT—Case only..... **116.18 ea.**
Xcelite No. TC 150/ST—Case with tools..... **332.10 ea.**
Xcelite No. TC 150/MT—Case only..... **104.76 ea.**
Xcelite No. TC 200/ST—Case with tools..... **207.50 ea.**
Xcelite No. TC 200/MT—Case only..... **64.75 ea.**

MIDGET REVERSIBLE RATCHET OFFSET SCREWDRIVER SET

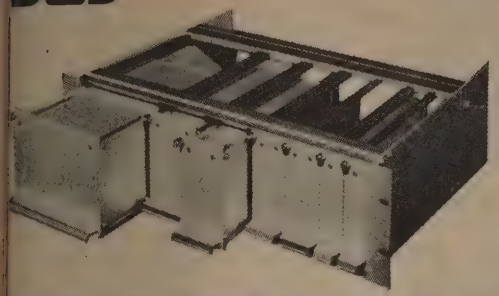


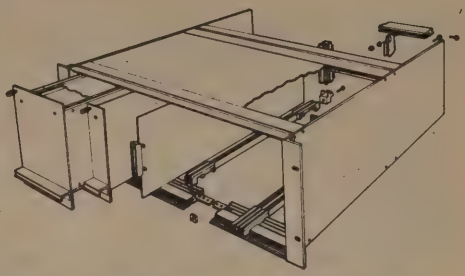
All-purpose set for Allen hex type, Phillips and slotted screws. Reversible ratchet and spinner/extension can also be used with 1/4" square drive sockets, with adapter included. Bits are precision made of chrome nickel molybdenum alloy steel. Knurled spinner tops for quick finger starting of screws. Heavy-duty 20-tooth, 1/4" hex drive ratchet of stainless steel with quick action and short (18°) turning radius. Includes: 12 Allen hex type screw bits (.050" to 3/16"), two slotted screw bits, #1 and #2 Phillips bits, 3 1/4" reversible ratchet, 6" spinner extension, 1/4" hex to 1/4" square adapter; and molded, compartmented case.

Xcelite No. XL-76..... **$30.34 ea.**

Xcelite No. XL-75 Offset Screwdriver Kit—Includes ratchet described above and four screwdriver bits (3/16" and 1/4" slotted #1 and #2 Phillips) in plastic pocket kit..... **$9.44 ea.**

BUD Modular Packaging System





he industry's most advanced system. Simple in design, highly nctional, easy to use and handsome in appearance. Available in a wide range of sizes in easy-to-assemble kits. Circuit boards and connectors are also available.

FEATURES

CCURATE ALIGNMENT—Highly stable, one-piece, full length, lass loaded polycarbonate guides provide accurate alignment f circuit boards and edge connectors.

ARIABLE GUIDE SPACING—Plug-in guides can be spaced nstantly on any pitch that is a multiple of 0.200". Up to 42 circuit oards can be housed.

ASY INSERTION—Guides are flush with the front of the Sub-tack.

IO PROFILING OF BOARDS—Specially designed connector end-ot provides lead-in for board and allows the edge connector to e the full height of the board.

IMPLE RUGGED CONSTRUCTION—Sturdy aluminum ex-rusions and heavy gauge aluminum panels provide extreme igidity.

XTRA FLEXIBILITY—Components come in a wide range of izes. The system adapts easily to your particular application.

OPTIONAL EXTRAS FOR SUB-RACKS

GUIDES—Two depths available to match the depth of the Sub-Rack.

TOP OR BOTTOM COVERS—Two depths available depending upon the depth of the Sub-Rack. No mounting screws required.

OVERALL FRONT PANELS—Three heights available to conform to the height of Sub-Rack. Four floating locks suggested.

CONNECTOR MOUNTING RAILS—Used only when connectors are not mounted directly to guides. Two of each required per connector. Also used for mounting rear panels.

DIVIDER PANELS—Available in three heights and two depths, and used for dividing the width of the Sub-Rack in sections.

SUB-RACK KITS

Bud Number	Unit Height*	Depth	Net Each, Lots of 1-9	10-14	15-19	20-24
SR-20101	2U	11.4"	$37.95	$34.15	$30.35	$28.45
SR-20102	2U	14.1"	38.80	34.90	31.05	29.10
SR-20103	3U	11.4"	40.05	36.05	32.05	30.05
SR-20104	3U	14.1"	41.40	37.25	33.10	31.05

*One unit height equals 1.75 inches.

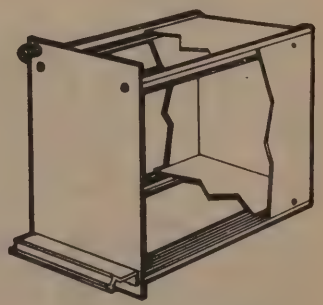
Bud Number	Unit Height*	Depth	Net Each, Lots of 1-9	10-14	15-19	20-24
SR-20105	4U	11.4"	$42.70	$38.45	$34.15	$32.05
SR-20106	4U	14.1"	44.20	39.80	35.35	33.15
SR-20107	5U	11.4"	45.45	40.90	36.35	34.10
SR-20108	5U	14.1"	47.50	42.75	38.00	35.65

*One unit height equals 1.75 inches.

SUB-UNITS

Bud Number	Height	Width	Sub-Rack Depth	Net Each, Lots of 1	2-14	15-24	25-34
SU-22101	5.25"	2.4"	11.4"	$30.30	$22.75	$20.50	$18.20
SU-22102	5.25"	2.4"	14.1"	31.00	23.25	20.90	18.60
SU-22103	7.00"	2.4"	11.4"	30.90	23.20	20.90	18.55
SU-22104	7.00"	2.4"	14.1"	32.60	24.45	22.00	19.55
SU-22105	8.75"	2.4"	11.4"	31.80	23.85	21.45	19.10
SU-22106	8.75"	2.4"	14.1"	33.40	25.05	22.55	20.05
SU-22107	5.25"	2.8"	11.4"	30.40	22.80	20.50	18.25
SU-22108	5.25"	2.8"	14.1"	32.10	24.10	21.70	19.30
SU-22109	7.00"	2.8"	11.4"	31.00	23.25	20.95	18 60
SU-22110	7.00"	2.8"	14.1"	32.70	24.55	22.10	19.65
SU-22111	8.75"	2.8"	11.4"	32.00	24.00	21.60	19.20
SU-22112	8.75"	2.8"	14.1"	34.20	25.65	23.10	20.50
SU-22113	5.25"	4.2"	11.4"	32.30	24.25	21.85	19.40
SU-22114	5.25"	4.2"	14.1"	34.10	25.60	23.05	20.50
SU-22115	7.00"	4.2"	11.4"	33.80	25.35	22.80	20.30
SU-22116	7.00"	4.2"	14.1"	35.40	26.55	23.90	21.25
SU-22117	8.75"	4.2"	11.4"	36.00	27.00	24.30	21.60
SU-22118	8.75"	4.2"	14.1"	37.60	28.20	25.40	22.55
SU-22119	5.25"	5.6"	11.4"	37.60	28.20	25.40	22.55
SU-22120	5.25"	5.6"	14.1"	39.00	29.55	26.60	23.65
SU-22121	7.00"	5.6"	11.4"	39.20	29.85	26.85	23.90
SU-22122	7.00"	5.6"	14.1"	40.00	31.00	27.90	24.80
SU-22123	8.75"	5.6"	11.4"	40.50	31.50	28.35	25.20
SU-22124	8.75"	5.6"	14.1"	41.00	32.85	29.55	26.30
SU-22125	5.25"	8.4"	11.4"	40.60	31.60	28.45	25.30
SU-22126	5.25"	8.4"	14.1"	41.50	33.60	30.25	26.90
SU-22127	7.00"	8.4"	11.4"	41.40	33.55	30.20	26.85
SU-22128	7.00"	8.4"	14.1"	42.50	35.70	32.15	28.55
SU-22129	8.75"	8.4"	11.4"	42.60	35.80	32.20	28.65
SU-22130	8.75"	8.4"	14.1"	43.00	37.80	34.00	30.25

These units consist of a front panel, rear panel, four runners, floating locks, a deck plate and a handle with necessary assembly hardware.



EDGE CONNECTORS

No. Pins per Row	Fits Sub-Rack Height	Single Row Bud Numbers: Solder Pin	Mini-Wrap	Net Each, Lots of 1	2-14	15-24	25-34	Double Row Bud Numbers: Solder Pin	Mini-Wrap	Net Each, Lots of 1	2-14	15-24	25-34
24	3.50"	C-20901	C-20902	$ 9.00	$ 6.75	$ 6.10	$ 5.40	C-20903	C-20904	$11.90	$ 8.95	$ 8.05	$ 7.15
40	5.25"	C-20905	C-20906	13.80	10.35	9.30	8.30	C-20907	C-20908	18.40	13.80	12.40	11.05
58	7.00"	C-20909	C-20910	19.00	14.25	12.85	11.40	C-20911	C-20912	25.70	19.30	17.35	15.45
76	8.75"	C-20913	C-20914	24.10	18.10	16.30	14.50	C-20915	C-20916	32.80	24.60	22.15	19.70

COMPLETE INFORMATION ON THE BUD MODULAR PACKAGING SYSTEM IS COVERED IN A 8-PAGE FOLDER—ASK FOR FORM NO. MPS-77 OR A DEMONSTRATION

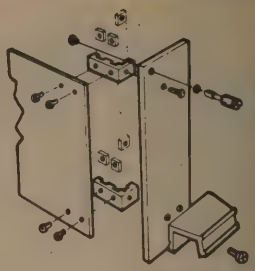
BUD Modular Packaging System

PRINTED BOARD UNIT KITS

Printed board units comprise a front panel, 2 board mounting blocks, a handle and a floating lock, together with the necessary assembly hardware. The units operate between a pair of one-piece, plug-in guides to assure accurate alignment.

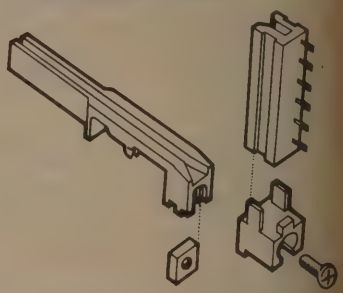
Bud Number	Fits Unit Height*	Width	Net Each, Lots of 1	2-49	50-99	100-149
PBU-24101	3U	1.2"	$10.10	$7.60	$6.85	$6.10
PBU-24102	4U	1.2"	10.10	7.60	6.85	6.10
PBU-24103	5U	1.2"	11.20	8.40	7.55	6.70
PBU-24104	3U	1.8"	10.60	7.95	7.15	6.35
PBU-24105	4U	1.8"	11.40	8.55	7.70	6.85
PBU-24106	5U	1.8"	11.80	8.85	7.95	7.10

*One unit height equals 1.75 inches.



CONNECTOR END FEET

Provides lead-in for board and also allows edge connector to be full height of board. Avoids necessity of profiling.



COMPATIBLE SINGLE-SIDED CIRCUIT BOARDS

Bud Number	Fits Sub-Rack Height, Nom.*	Fits Sub-Rack Depth, Nom.	No. of Contacts	Net Each, Lots of 1	2-14	15-24	25-34
CB-21401	2U	11.4"	24	$24.60	$18.45	$16.60	$14.75
CB-21402	2U	14.1"	24	27.20	20.40	18.35	16.30
CB-21403	3U	11.4"	40	32.70	24.55	22.10	19.65
CB-21404	3U	14.1"	40	38.50	28.90	26.00	23.10
CB-21405	4U	11.4"	58	43.50	32.65	29.40	26.10
CB-21406	4U	14.1"	58	45.00	39.00	35.10	31.20
CB-21407	5U	11.4"	76	47.00	43.80	39.40	35.05
CB-21408	5U	14.1"	76	48.50	46.90	42.20	37.50

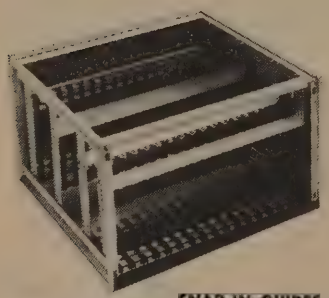
*One unit height equals 1.75 inches.

CIRCUIT BOARD HANDLES

Bud Number CBH-21501—Mounting holes align with those in circuit board. Necessary hardware is included.

HORIZON CABINETS

The Horizon is especially suited for microprocessor and microcomputer applications. It was developed to provide a range of options for the equally effective housing of printed circuit boards, mother boards, connectors, power supplies, plug-in modules and other chassis-mounted components. Contemporary styling with no exposed screws on top, front, bottom or sides. Top, bottom and sides slide out for easy access to cabinet interior. Frame is extruded, anodized aluminum. Top, bottom, sides and rear panel are blue vinyl-clad aluminum, .062" thick. Front panel is brushed and anodized .100" aluminum. Four fully adjustable interior mounting rails allow complete flexibility when mounting optional chassis, card mounting accessories or other desired items. Optional card mounting kit allows top or rear insertion of standard PC boards. Snap-in card guides allow quick and accurate alignment of PC boards. A mother board can be mounted directly to the guides, assuring perfect alignment. Accessory connector mounting rails allow mounting of any connector or mother board. Mounting centers are adjustable. Accessory chassis can be mounted vertically or horizontally. Modular packaging sub-units (above) can be used in place of the front panel.



Bud No.	Front Panel Space	Overall Height	Rear Panel Space	Clear Inside Height	Net Each, Lots of 1-9	10-14	15-19	20-24
HC-925	7.000"	7.875"	6.281"	7.531"	$169.35	$152.40	$135.50	$127.00
HC-926	8.750"	9.625"	8.031"	9.281"	180.80	162.70	144.65	135.60
HC-927	10.500"	11.375"	9.781"	11.031"	193.95	174.55	155.15	145.45

SNAP-IN GUIDES

Bud No.	Length	Net per 100, Lots of 100	101-300	301-500	501-700
G-20600	5.25"	$50.40	$37.80	$34.00	$30.25
G-20601	7.85"	63.00	47.25	42.50	37.80
G-20602	10.50"	75.40	56.55	50.90	45.25

CARD MOUNTING KIT

Four horizontal members, four guide mounting strips and hardware.

Bud No.	Fits Cabinet	Net Each, Lots of 1	2-49	50-99	100-149
HCK-525	All	$24.50	$20.45	$18.40	$16.35

CONNECTOR MOUNTING RAIL KIT

One pair of connector mounting rails and hardware can be used to mount a mother board or individual connectors. For each kit, order 1 or 2 vertical mounting rail kits as required.

HCK-529	All	$8.50	$7.10	$6.40	$5.70

VERTICAL MOUNTING RAIL KIT

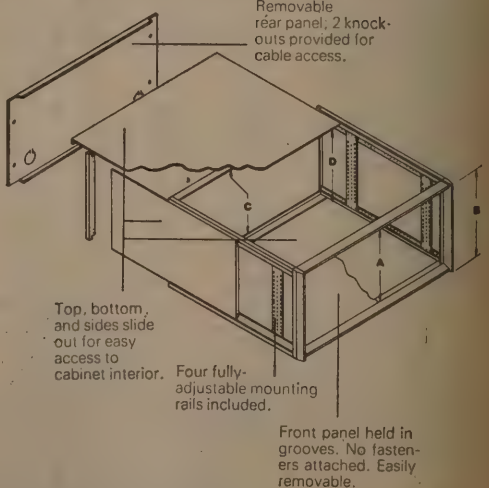
One pair of mounting rails with hardware.

HCK-526	HC-925	$8.50	$7.10	$6.40	$5.70
HCK-527	HC-926	8.70	7.25	6.55	5.80
HCK-528	HC-927	9.40	7.85	7.05	6.30

CHASSIS

Can be mounted vertically or horizontally; .062" aluminum.

Bud No.	Size, Inches	Net Each, Lots of 1	2-49	50-99	100-149
HAC-905	.5 x 7 x 17	$10.30	$ 8.60	$ 7.75	$ 6.90
HAC-906	.5 x 8.75 x 17	12.00	10.00	9.00	8.00
HAC-907	.5 x 10.5 x 17	13.70	11.45	10.30	9.15



Series 2000 Cabinet Racks



Upright Cabinet Rack
Panels not included

SERIES 2000 UPRIGHT CABINET RACKS

Modern rack enclosures combine the dramatic appearance of sheer, square lines with rugged Bud construction. Basic frame is all-welded with 14 gauge steel members; 18 gauge steel door, sides and top. "U" braces welded to sides of frame augment its strength and rigidity and act as a mounting for the vertical rails, which can be horizontally adjusted. Front and rear panel mounting rails are tapped 10-32. Caster bracket in base accepts Bud RC-7758 casters. All cabinets accept standard 19" panels. Shipped completely assembled. Width, 24⅜". Units immediately available in gray textured (**GT**) or royal blue textured (**RB**) with clear anodized extrusion cowl. **Specify Color When Ordering.**

30" deep racks also available; prices on request.

23⅜" OUTSIDE DEPTH—20½" CLEAR INSIDE DEPTH

With Plain Sides and Door				Size, Inches		Wt., Lbs.	With Louvered Sides and Door			
Bud No.	Net Each, Lots of 1-2	3-4	5-7	Ht.	Panel Space		Bud No.	Net Each, Lots of 1-2	3-4	5-7
E-2000	$397.75	$358.00	$318.20	30¼	21	125	E-2016	$420.25	$378.25	$336.20
E-2001	432.10	388.90	345.70	40¾	31½	150	E-2017	464.05	417.65	371.25
E-2002	447.70	402.95	358.15	44¼	35	155	E-2018	480.75	432.70	384.60
E-2003	493.20	443.90	394.55	51¼	42	167	E-2019	526.95	474.25	421.55
E-2004	545.65	491.10	436.50	61¾	52½	205	E-2020	566.65	510.00	453.30
E-2005	583.15	524.85	466.50	70½	61¼	219	E-2021	613.05	551.75	490.45
E-2006	617.10	555.40	493.70	79¼	70	252	E-2022	634.90	571.40	507.90
E-2007	670.30	603.25	536.25	88	78¾	262	E-2023	694.60	625.15	555.70

27⅜" OUTSIDE DEPTH—24" CLEAR INSIDE DEPTH

E-2008	$414.15	$372.75	$331.30	30¼	21	135	E-2024	$430.50	$387.45	$344.40
E-2009	453.10	407.80	362.50	40¾	31½	160	E-2025	473.10	425.80	378.50
E-2010	472.20	425.00	377.75	44¼	35	165	E-2026	490.35	441.30	392.30
E-2011	519.60	467.65	415.70	51¼	42	187	E-2027	533.70	480.35	426.95
E-2012	550.90	495.80	440.70	61¾	52½	222	E-2028	575.25	517.75	460.20
E-2013	601.15	541.05	480.90	70½	61¼	229	E-2029	618.15	556.35	494.50
E-2014	626.10	563.50	500.90	79¼	70	256	E-2030	647.10	582.40	517.70
E-2015	683.70	615.35	546.95	88	78¾	280	E-2031	705.45	634.90	564.35



Inclined Panel Cabinet Rack
Panels not included

SERIES 2000 INCLINED PANEL CABINET RACKS

Same modern styling and rugged construction as upright racks above, with 20° inclined panel for comfortable viewing of mounted instruments. Panel mounting rails in front vertical and inclined panel sections, as well as in the rear, are adjustable front-to-rear. Height, 51¼"; width, 24⅜"; outside depth, 23⅞"; clear inside depth, 20½". Weight, 173 lbs. Available in same textured finishes as above. **Specify Color When Ordering.**

30" deep racks also available; prices on request.

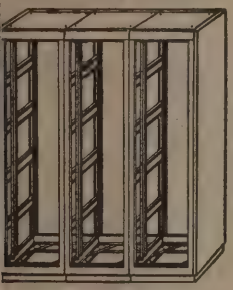
With Plain Sides and Door				Inclined Panel Space	Vertical Panel Space	With Louvered Sides and Door			
Bud No.	Net Each, Lots of 1-2	3-4	5-7			Bud No.	Net Each, Lots of 1-2	3-4	5-7
SE-2064	$522.90	$470.60	$418.30	10½"	29¾"	SE-2067	$537.30	$483.55	$429.85
SE-2065	552.90	497.60	442.30	15¼"	24½"	SE-2068	537.30	483.55	429.85
SE-2066	522.90	470.60	418.30	17½"	22¾"	SE-2069	537.30	483.55	429.85

ADD-A-RACKS AND ACCESSORIES FOR SERIES 2000

ADD-A-RACK SERIES FOR UPRIGHT CABINETS

Used as an add-on unit to join Series 2000 upright racks into a bank of two or more. Each assembly consists of a frame, top, bottom, rear door and cowlings. One standard rack must be used, plus any number of Add-A-Rack units. **Specify Color When Ordering**; same as above racks.

With Plain Door					With Louvered Door					
Bud No.	For Add-on to Rack	Net Each, Lots of 1-2	3-4	5-7	Bud No.	For Add-on to Rack	Net Each, Lots of 1-2	3-4	5-7	Wt., Lbs.
AE-2032	E-2000	$333.75	$300.40	$267.00	AE-2048	E-2016	$346.90	$312.20	$277.50	90
AE-2033	E-2001	346.65	312.00	277.30	AE-2049	E-2017	363.15	326.85	290.50	110
AE-2034	E-2002	363.85	327.45	291.10	AE-2050	E-2018	371.10	334.00	296.90	113
AE-2035	E-2003	380.65	342.60	304.50	AE-2051	E-2019	378.40	340.55	302.70	115
AE-2036	E-2004	415.95	374.35	332.75	AE-2052	E-2020	394.05	354.65	315.25	145
AE-2037	E-2005	464.25	417.85	371.40	AE-2053	E-2021	466.95	420.25	373.55	148
AE-2038	E-2006	487.20	438.50	389.75	AE-2054	E-2022	514.90	463.40	411.90	152
AE-2039	E-2007	555.85	500.25	444.70	AE-2055	E-2023	532.35	479.10	425.90	158
AE-2040	E-2008	373.30	335.95	298.65	AE-2056	E-2024	384.30	345.85	307.45	120
AE-2041	E-2009	388.50	349.65	310.80	AE-2057	E-2025	400.20	360.20	320.15	130
AE-2042	E-2010	406.75	366.10	325.40	AE-2058	E-2026	418.90	377.00	335.10	135
AE-2043	E-2011	412.20	371.00	329.75	AE-2059	E-2027	424.45	382.00	339.55	138
AE-2044	E-2012	437.80	394.00	350.25	AE-2060	E-2028	450.90	405.80	360.70	142
AE-2045	E-2013	497.50	447.75	398.00	AE-2061	E-2029	512.35	461.10	409.90	164
AE-2046	E-2014	547.35	492.60	437.90	AE-2062	E-2030	563.85	507.45	451.10	168
AE-2047	E-2015	589.05	530.15	471.25	AE-2063	E-2031	606.75	546.10	485.40	172



Add-A-Rack

ADD-A-RACK SERIES FOR INCLINED PANEL CABINETS

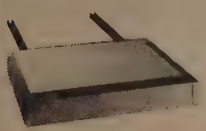
ASE-2084	SE-2064	$437.80	$394.00	$350.25	.....	.....	.....	.....	.....	115
ASE-2085	SE-2065	437.80	394.00	350.25	.....	.....	.....	.....	.....	115
ASE-2086	SE-2066	437.80	394.00	350.25	.....	.....	.....	.....	.....	120

ACCESSORY FRONT DOORS FOR UPRIGHT CABINETS

Plain Type				For Vertical Panel Space of	Wt., Lbs.	Louvered Type			
Bud No.	Net Each, Lots of 1-2	3-4	5-7			Bud No.	Net Each, Lots of 1-2	3-4	5-7
E-9000	$ 98.35	$ 88.50	$ 78.70	21"	15	E-9020	$112.15	$100.95	$ 89.70
E-9001	109.75	98.80	87.80	31½"	18	E-9021	125.10	112.60	100.10
E-9002	115.90	104.30	92.70	35"	19	E-9022	132.10	118.90	105.70
E-9003	124.45	112.00	99.55	42"	23	E-9023	141.85	127.65	113.50
E-9004	129.40	116.45	103.50	52½"	27	E-9024	146.80	132.10	117.45
E-9005	135.25	121.75	108.20	61¼"	29	E-9025	154.15	138.75	123.30
E-9006	141.75	127.60	113.40	70"	31	E-9026	161.55	145.40	129.25
E-9007	152.55	137.30	122.05	78¾"	33	E-9027	173.95	156.55	139.15

ACCESSORY FRONT DOORS FOR INCLINED PANEL CABINETS

E-9008	$121.80	$109.60	$ 97.45	29¾"	11	E-9028	$139.05	$125.15	$111.25
E-9009	113.20	101.90	90.55	24½"	10½	E-9029	128.95	116.05	103.15
E-9010	111.45	100.30	89.15	22¾"	9	E-9030	109.75	98.80	87.80



DESK TOPS FOR SERIES 2000 CABINET RACKS

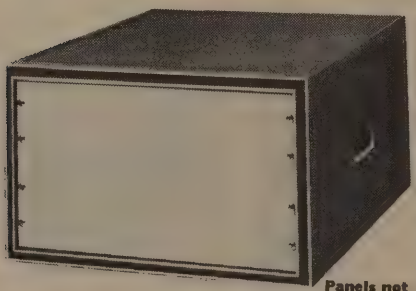
Provides a smooth writing surface or shelf on upright or inclined panel cabinet rack. Two pre-slotted supporting channels bolt to panel mounting rails. Antique white Formica* surface. Supports over 200 lbs. **Size:** 24⅜" wide, 19½" deep, 3⅛" high. Specify **GT** for gray textured; **RB** for royal blue textured.

Bud No.	Fits Cabinet with Depth of	Supporting Channel	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
DT-2960	23⅞"	21¼"	29	$119.90	$107.90	$95.90
DT-2962	27⅜"	24¾"	30	123.90	111.50	99.10

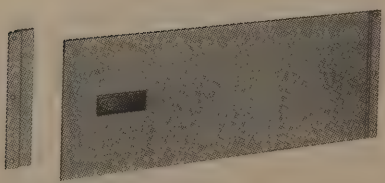
*Registered Synthane Corp. trademark.



Panels not included



Panels not included



CLASSIC II CABINET RACKS

Refined styling, design simplicity, with a subtle brushed aluminum extrusion framing the front—a few reasons why the Classic II sets your products apart from the conventional. Include welded frame, top, bottom, sides, rear door with flush-mounted handle and cam lock, and one pair of panel mounting rails. Lightweight, yet able to support heavier-than-average loads. Size: 22″ w. x 22″ d. Clear inside depth, 21⅛″. 19″ wide panels fit openings. Rear door may be mounted to open to right or left. Adjustable front mounting rails drilled and tapped 10-32 universal spacing. Caster brackets welded to all-steel, extra-rigid frame accept RC-7756 casters. Side panels 18 gauge steel; top and bottom 16 gauge; uprights 14 gauge. Shipped completely assembled. Side panels may be removed from outside for convenient access to interior. Finishes: Royal blue textured (**RB**) and gray textured (**GT**).

Bud No.	Height, Inches	Panel Ht., In.*	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGR-9302	47⅝	42	126	$402.75	$362.50	$322.20
AGR-9303	57 3/16	52½	149	435.90	392.30	348.70
AGR-9304	66⅜	61¼	162	468.85	421.95	375.10
AGR-9306	82⅝	77	191	538.80	484.90	431.05

*On 19″ width.

FRONT DOORS FOR CLASSIC II RACKS

Rear doors included with racks. Order in color to match rack.

Bud No.	Fits Rack	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGD-932	AGR-9302	19	$ 94.35	$ 84.90	$75.50
AGD-933	AGR-9303	23	100.45	90.40	80.35
AGD-934	AGR-9304	26	105.90	95.30	84.70
AGD-936	AGR-9306	31	116.00	104.40	92.80

CLASSIC II CABINETS

Whether used independently or as a companion to the Classic II cabinet rack, the design of this distinctive cabinet harmonizes perfectly with the most sophisticated systems. It is a portable enclosure, yet equally effective for permanent installations. Available in 14 sizes, each taking standard 19″ panels. Available ¼″ aluminum alloy doors attach to mounting rails; stop fits on one rail; hinged door to other rail. Black thermoplastic flush-type latch. Top, bottom, and side panels 0.06″ aluminum; frame 6063-T aluminum extrusions. Clear inside depth, 20⅜″; overall depth, 21⅞″. Shipped assembled. Recessed, brushed chrome handles are attached to two steel flanges extending the length of each side of the cabinet. This added support results in assured carrying safety. Two 16 gauge vertically adjustable chassis supports included. Front and rear panel rails, tapped 10-32. Doors not included but are available. Finishes: Royal blue textured (**RB**) or gray textured (**GT**).

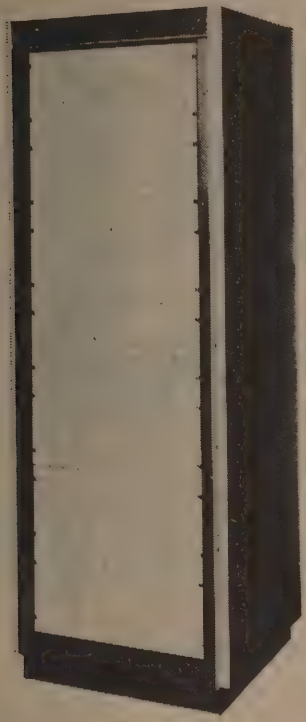
Bud No.	Overall Ht., In.	Panel Space, In.	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGC-9267	7⅛	5¼	29¼	$210.45	$189.40	$168.35
AGC-9268	8 3/16	7	30½	216.15	194.55	172.90
AGC-9269	10⅜	8¾	32¼	221.65	199.50	177.30
AGC-9270	12⅝	10½	33¼	222.55	200.30	178.05
AGC-9271	14⅛	12¼	34¼	230.05	207.05	184.05
AGC-9272	15 3/16	14	35	235.35	211.80	188.30
AGC-9273	17⅜	15¾	36	240.00	216.00	192.00
AGC-9274	19⅝	17½	36¾	245.20	220.70	196.15
AGC-9275	21⅛	19¼	37¼	247.50	222.75	198.00
AGC-9276	22 3/16	21	38½	251.40	226.25	201.10
AGC-9277	24⅜	22¾	39½	264.10	237.70	211.30
AGC-9278	26⅝	24½	40¼	267.25	240.55	213.80
AGC-9279	28⅛	26¼	41¼	270.85	243.75	216.70
AGC-9280	29 3/16	28	42	276.40	248.75	221.10

CLASSIC II DOORS 19″ WIDE

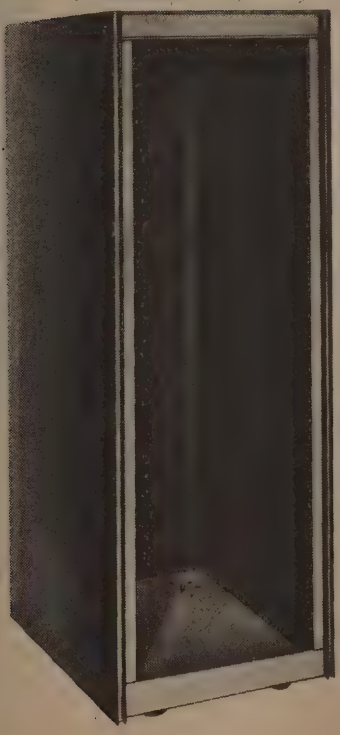
Designed for use on Classic II Cabinets; also fit any rack or cabinet with 19″ panel space by attaching to panel mounting rails. Made of ⅛″ aluminum alloy 5005-H36. Stop fits on one panel mounting rail; hinged door attaches to other rail. Equipped with black thermoplastic slide latch. Finish, white textured.

Bud No.	Height, In.	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
AGD-367	5¼	1¾	$25.90	$23.30	$20.70
AGD-368	7	2	30.55	27.50	24.45
AGD-369	8¾	2¾	34.00	30.60	27.20
AGD-370	10½	3	36.90	33.20	29.50
AGD-371	12¼	3½	39.50	35.55	31.60
AGD-372	14	4	44.40	39.95	35.50
AGD-373	15¾	4¾	49.95	44.95	39.95
AGD-374	17½	5	51.95	46.75	41.55
AGD-375	19¼	5½	55.45	49.90	44.35
AGD-376	21	6¼	57.95	52.15	46.35
AGD-377	22¾	6¾	60.55	54.50	48.45
AGD-378	24½	7¼	64.90	58.40	51.90
AGD-379	26¼	7½	66.65	60.00	53.30
AGD-380	28	8	68.80	61.90	55.05

CONCORDE SERIES UPRIGHT CABINET RACKS



Panels not included



Cabinet racks with a personality all their own; racks that add a unique but highly sophisticated appearance to any installation. Standard racks with custom-quality appearance. Etched, clear anodized aluminum extrusion frames the cabinet. A subtle inset at the top (woodgrain) completes the handsome appearance. Interior accessible from front, rear and sides, for ease of installing and maintaining equipment. "U" braces on all-welded, 14-gauge steel frame assures strength and rigidity; peak stability under the heaviest of loads. Rear door, sides and top constructed of 18-gauge steel. Adjustable 12-gauge panel-mounting rails, tapped to 10-32. Racks accommodate standard 19" panels. Fully adjustable interior mounting system accommodates any module or component. Top opening, 18 5/16" x 17". Shipped assembled. **Finishes:** Units immediately available in gray textured (**GT**) or royal blue (**RB**).

Bud No.	Outside (Ins.) Height	Width	Depth	Clear Inside Depth (In.)	Panel Space (In.)	Wt., Lbs.
CR-16200	29 5/8	24 1/16	22 1/4	20 1/2	21	118
CR-16201	40 1/8	24 1/16	22 1/4	20 1/2	31 1/2	156
CR-16202	50 5/8	24 1/16	22 1/4	20 1/2	42	173
CR-16203	61 1/8	24 1/16	22 1/4	20 1/2	52 1/2	197
CR-16204	69 7/8	24 1/16	22 1/4	20 1/2	61 1/4	220
CR-16205	78 5/8	24 1/16	22 1/4	20 1/2	70	235
CR-16206	87 3/8	24 1/16	22 1/4	20 1/2	78 3/4	265

PRICING

Bud No.	Net Each, Lots of 1-2	3-4	5-7	8-10
CR-16200	$436.80	$393.10	$349.45	$327.60
CR-16201	475.65	428.10	380.50	356.75
CR-16202	526.50	473.85	421.20	394.90
CR-16203	599.65	539.70	479.70	449.75
CR-16204	646.95	582.25	517.55	485.20
CR-16205	691.00	621.90	552.80	518.25
CR-16206	742.80	668.50	594.25	557.10

SERIES 20 CABINETS

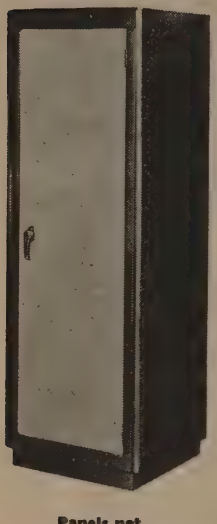
A recent addition to the Designer's Group line offers more value at less cost. Saves on shipping and storage costs since it is shipped knocked down in two cartons. Easily assembled with simple tools. Styling includes decorative anodized aluminum extrusions and nameplate frame. Units have two pairs of adjustable mounting rails tapped 10-32 at universal spacing. Top has two sets of louvers on the top to provide extra ventilation. Six-inch circular knockout in base for cable access or air circulation. Rear door is furnished fitted with flush handle and cam lock. Caster mounting brackets are drilled to accommodate any Bud caster or leveler. Royal blue textured finish. Use Accessories shown elsewhere on these Bud pages.

Bud No.	Dimensions, Inches Panel Height	Outside Height	Outside Width	Outside Depth	Clear Inside Depth	Clear Inside Width
KDR-2752	52 1/2	58 3/16	24 1/16	32 3/8	29 1/4	17 15/16
KDR-2761	61 1/4	66 15/16	24 1/16	32 3/8	29 1/4	17 15/16
KDR-2770	70	75 11/16	24 1/16	32 3/8	29 1/4	17 15/16
KDR-2778	78 3/4	84 7/16	24 1/16	32 3/8	29 1/4	17 15/16

PRICING

Bud No.	Net Each, Lots of 1-2	3-4	5-7	8-10
KDR-2752	$406.15	$365.55	$324.90	$304.60
KDR-2761	428.10	385.30	342.50	321.10
KDR-2770	465.15	418.65	372.10	348.85
KDR-2778	495.60	446.05	396.50	371.70

Series "60" Cabinet Racks



Panels not included

UPRIGHT CABINET RACKS

Completely assembled 19″ racks with sides, rear door and top. Standard units have plain sides and door and solid top. For greater ventilation, order units with louvered sides and rear door and solid top. Width, 24⅛″. Inside depth 20½″ clear on all units with 22″ outside depth; 24″, all others. Top opening 18⅝″ w. x 17″ d. on units with 22″ outside depth; 18⅝″ w. x 20½″ d., all others. **Specify Color When Ordering.**

Standard finishes are textured enamel over primer. Units immediately available in royal blue textured **(RB)** and gray textured **(GT)**.

Basic frame welded in a solid unit composed of 14-gauge cold-rolled steel channels. Sides have "U" braces with perforated channels for fastening vertical adjustable mounting rails. Rails also support other types of equipment such as brackets, shelves, slides, etc. Eliminates need of drilling holes in the rack. Sides and rear door made of 18 gauge steel. Door may be mounted to open left or right. Vertical channel, 4″ wide, welded to door to prevent vibration or whip. Two pairs of panel mounting rails are supplied; fully adjustable. Panels may be mounted in front and rear at the same time. Front and rear rails drilled and tapped 10-32 W.E. spacing.

All Series Sixty enclosures may be quickly combined with each other to create units of any desired width as shown in the Add-A-Rack series. In addition, such accessories as desk tops, turrets, drawers, slides, sloping panel supports and front door are easily installed.

Plain Sides and Door							Louvered Sides and Door			
	Net Each, Lots of							Net Each, Lots of		
Bud No.	1-2	3-4	5-7	Height	Panel Space	Weight Lbs.	Bud No.	1-2	3-4	5-7
22″ Outside Depth/20½″ Clear Inside Depth										
60-2300	$386.70	$348.05	$309.35	29⅝″	21″	118	60-2700	$403.60	$363.25	$322.90
60-2301	420.85	378.75	336.70	40⅛″	31½″	149	60-2701	436.95	393.25	349.55
60-2302	476.50	428.85	381.20	50⅝″	42″	173	60-2702	489.70	440.75	391.75
60-2303	521.95	469.75	417.55	61⅛″	52½″	203	60-2703	538.50	484.65	430.80
60-2304	566.25	509.65	453.00	69⅞″	61¼″	220	60-2704	582.70	524.45	466.15
60-2305	603.55	543.20	482.85	78⅝″	70″	235	60-2705	623.55	561.20	498.85
60-2306	650.50	585.45	520.40	87⅜″	78¾″	258	60-2706	671.95	604.75	537.55
25½″ Outside Depth/24″ Clear Inside Depth										
60-2307	$401.55	$361.40	$321.25	29⅝″	21″	130	60-2707	$417.25	$375.55	$333.80
60-2308	430.75	387.70	344.60	40⅛″	31½″	155	60-2708	441.40	397.25	353.10
60-2309	487.80	439.00	390.25	50⅝″	42″	176	60-2709	501.30	451.15	401.05
60-2310	527.85	475.05	422.30	61⅛″	52½″	211	60-2710	542.10	487.90	433.70
60-2311	580.15	522.15	464.10	69⅞″	61¼″	240	60-2711	590.35	531.30	472.30
60-2312	612.90	551.60	490.30	78⅝″	70″	241	60-2712	629.05	566.15	503.25
60-2313	665.70	599.15	532.55	87⅜″	78¾″	270	60-2713	688.65	619.80	550.90

30″ deep racks also available; prices on request.



Inclined Panel Cabinet Rack
Panels not Included

INCLINED PANEL CABINET RACKS

Completely assembled with sides, rear door and solid top. Available in two combinations of plain or louvered sides and rear door. **Specify Color When Ordering:** Add suffix **GT** to number for gray; **RB** for blue. Size, 50⅝″ h. x 24⅛″ w. x 22″ d., outside; 20½″ d., clear inside. Weight, 165 lbs.

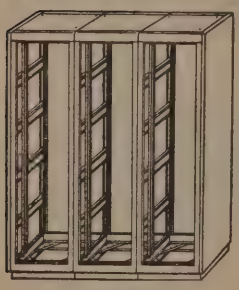
	Net Each, Lots of			Incline Panel Height	Vertical Panel Height	Opening D.*		Net Each, Lots of		
Bud No.	1-2	3-4	5-7				Bud No.	1-2	3-4	5-7
With Plain Sides and Door							With Louvered Sides and Door			
60-2330	$479.25	$431.35	$383.40	10½″	29¾″	11 3⁄16″	60-2730	$506.40	$455.75	$405.10
60-2331	479.25	431.35	383.40	15¾″	24½″	10″	60-2731	506.40	455.75	405.10
60-2332	479.25	431.35	383.40	17½″	22¾″	9⅞″	60-2732	506.40	455.75	405.10

*Width is 18⅝″. **30″ deep racks also available; prices on request.**

ADD-A-RACK SERIES FOR SERIES 60 UPRIGHT CABINET RACKS

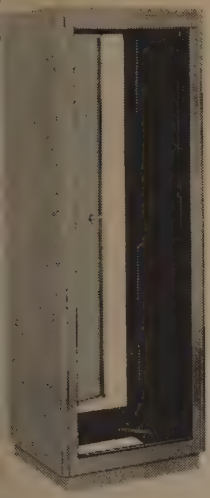
Each assembly consists of frame, top, bottom, rear door and cowlings; used as an add-on unit to join any of the Series Sixty enclosures into a bank of two or more. One standard rack plus several Add-A-Racks make any desired number of racks combined for optimum width. Colors same as Racks.

Plain Door					Louvered Door				
Bud No.	For Add-on to Rack No.	Net Each, Lots of 1-2	3-4	5-7	Bud No.	For Add-on to Rack No.	Net Each, Lots of 1-2	3-4	5-7
60-2500	60-2300	$319.45	$287.50	$255.55	60-2900	60-2700	$326.35	$293.70	$261.10
60-2501	60-2301	350.35	315.30	280.30	60-2901	60-2701	360.10	324.10	288.10
60-2502	60-2302	379.15	341.25	303.30	60-2902	60-2702	388.75	349.90	311.00
60-2503	60-2303	406.05	365.45	324.85	60-2903	60-2703	415.65	374.10	332.50
60-2504	60-2304	443.35	399.00	354.70	60-2904	60-2704	451.75	406.60	361.40
60-2505	60-2305	491.10	442.00	392.90	60-2905	60-2705	500.05	450.05	400.05
60-2506	60-2306	524.55	472.10	419.65	60-2906	60-2706	533.20	479.90	426.55
60-2507	60-2307	329.20	296.30	263.35	60-2907	60-2707	336.15	302.55	268.90
60-2508	60-2308	365.35	328.80	292.30	60-2908	60-2708	374.10	336.70	299.30
60-2509	60-2309	395.65	356.10	316.50	60-2909	60-2709	405.15	364.65	324.10
60-2510	60-2310	420.70	378.65	336.55	60-2910	60-2710	431.35	388.20	345.10
60-2511	60-2311	470.65	423.60	376.50	60-2911	60-2711	479.50	431.55	383.60
60-2512	60-2312	512.40	461.15	409.90	60-2912	60-2712	521.65	469.50	417.30
60-2513	60-2313	537.30	483.55	429.85	60-2913	60-2713	545.05	490.55	436.05
60-2530	60-2330	360.55	324.50	288.45	60-2930	60-2730	383.55	345.20	306.85
60-2531	60-2331	360.55	324.50	288.45	60-2931	60-2731	383.55	345.20	306.85
60-2532	60-2332	360.55	324.50	288.45	60-2932	60-2732	383.55	345.20	306.85



Add-A-Rack

Series "60" Rack Accessories





Inclined Panel Rack



Plexiglas Door

ACCESSORIES FOR UPRIGHT CABINET RACKS

FOR 19" PANEL SPACE

ACCESSORY DOORS

Doors are interchangeable; may be used for front or rear of rack; mount to open either left or right. Width, 18 1/16". Rear door supplied with rack.

Bud No.	Plain Type Net Each, Lots of 1-2	3-4	5-7	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-2340	$ 67.90	$ 61.10	$ 54.30	21 7/16"	21"	8	60-2540	$ 76.00	$ 68.40	$ 60.80
60-2341	73.05	65.75	58.45	31 1/16"	31 1/2"	11 1/2	60-2541	81.55	73.40	65.25
60-2342*	80.65	72.60	64.50	42 7/16"	42"	15 1/2	60-2542	90.60	81.55	72.50
60-2343	89.85	80.85	71.90	52 1/16"	52 1/2"	19	60-2543	99.90	89.90	79.90
60-2344	99.25	89.35	79.40	61 1/16"	61 1/4"	22 1/4	60-2544	111.90	100.70	89.50
60-2345	116.20	104.60	92.95	70 7/16"	70"	25 1/2	60-2545	124.05	111.65	99.25
60-2346	120.30	108.25	96.25	79 1/16"	78 3/4"	29	60-2546	135.40	121.85	108.30

*For use as rear door for all inclined panel cabinet racks.

ACCESSORY SIDES

Width, 22" except 60-2567–60-2573, 25 1/2". Sold in pairs only.

Bud No.	Plain Type Net Each Pair, Lots 1-2	3-4	5-7	Ht.	Fits Rack With Panel Space of	Wt., Lbs.	Louvered Type Bud No.	Net Each Pair, Lots 1-2	3-4	5-7
60-2560	$ 85.60	$ 77.05	$ 68.50	26 7/8"	21"	12 1/2	60-2580	$100.95	$ 90.85	$ 80.75
60-2561	112.75	101.50	90.20	37 3/8"	31 1/2"	17 1/2	60-2581	131.35	118.20	105.10
60-2562	131.65	118.50	105.30	47 7/8"	42"	21	60-2582	158.70	142.85	126.95
60-2563	152.05	136.85	121.65	58 3/8"	52 1/2"	26 1/4	60-2583	186.55	167.90	149.25
60-2564	167.40	150.65	133.90	67 1/8"	70"	34	60-2584	205.60	185.05	164.50
60-2565	176.40	158.75	141.10	75 7/8"	70"	34	60-2585	208.60	187.75	166.90
60-2566	211.45	190.30	169.15	84 5/8"	78 3/4"	38	60-2586	240.40	216.35	192.30
60-2567	107.85	97.05	86.30	26 7/8"	21"	14 1/2	60-2587	118.35	106.50	94.70
60-2568	141.25	127.15	113.00	37 3/8"	31 1/2"	20	60-2588	154.75	139.30	123.80
60-2569	163.15	146.85	130.50	47 7/8"	42"	24	60-2589	180.10	162.10	144.10
60-2570	189.45	170.50	151.55	47 3/8"	52 1/2"	29 1/2	60-2590	209.35	188.40	167.50
60-2571	207.30	186.55	165.85	67 1/8"	61 1/4"	34 1/2	60-2591	229.30	206.35	183.45
60-2572	230.95	207.85	184.75	75 7/8"	70"	39	60-2592	252.40	227.15	201.90
60-2573	242.85	218.55	194.30	84 5/8"	78 1/4"	43 1/2	60-2593	265.90	239.30	212.70

ACCESSORY PERFORATED TOP FOR UPRIGHT CABINET RACK

Width, 21 1/16".

Bud No.	For Panel Space	Depth	Fits Upright Rack	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2370	19"	17"	With overall depth of 22"	6	$33.00	$24.75	$22.30
60-2371	19"	20 1/2"	With overall depth of 25 1/2"	7	34.90	26.20	23.60

ACCESSORIES FOR INCLINED PANEL CABINET RACKS

ACCESSORY FRONT DOORS

FOR 19" PANEL SPACE

Width, 18 1/16".

Bud No.	Plain Type Net Each, Lots of 1-2	3-4	5-7	Height	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type Bud No.	Net Each, Lots of 1-2	3-4	5-7
60-2350	$73.15	$65.85	$58.50	30 3/16"	18 5/16 x 11 13/16	11	60-2550	$81.75	$73.60	$65.40
60-2351	67.90	61.10	54.30	24 13/16"	18 5/16 x 10	9 1/2	60-2551	76.65	69.00	61.30
60-2352	66.45	59.80	53.15	23 3/16"	18 5/16 x 9 7/16	9	60-2552	74.05	66.65	59.25

ACCESSORY SIDES

Specify "L" for left side or "R" for right side, determined when facing front of rack. Size, 22" w. x 47 53/64" h. Sold in pairs only.

Bud No.	Plain Type Net Each Pair, Lots 1-2	3-4	5-7	Fits Rack Top Open. Size, In.	Wt., Lbs.	Louvered Type Bud No.	Net Each Pair, Lots 1-2	3-4	5-7
60-2574	$136.50	$122.85	$109.20	18 5/16 x 11 13/16	11	60-2594	$150.70	$135.65	$120.55
60-2575	140.35	126.30	112.30	18 5/16 x 10	9 1/2	60-2595	155.50	139.95	124.40
60-2576	141.85	127.65	113.50	18 5/16 x 9 7/16	9	60-2596	157.30	141.55	125.85

ACCESSORY PERFORATED TOPS

FOR 19" PANEL SPACE

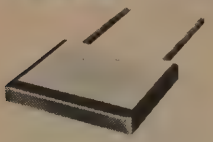
Bud No.	Width	Depth	Fits Rack Top Size, In.	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2372	21 1/16"	11 13/16"	18 5/16 x 11 13/16	3 1/2	$22.60	$16.95	$15.25
60-2373	21 1/16"	10"	18 5/16 x 10	3 1/2	21.50	16.15	14.55
60-2374	21 1/16"	9 3/8"	18 5/16 x 9 7/16	3 1/4	21.50	16.15	14.55

PLEXIGLAS® RACK DOORS

exiglas plastic doors to fit Series 20, Series 60, Series 2000 d Concorde racks. The 1/8" thick, smoke gray Plexiglas offers l visibility of all rack and panel instruments, plus operating uipment, yet all are behind a door, fully protected. The closed or is at least 3/4" from front of panel, allowing clearance for otruding switches, knobs, etc. Plastic is embedded in poly-ethane gasket to prevent rattling. Aluminum frame has a ss-section of 1 3/32" x 1 1/8" and has magnetic catch. Door may reversed for right or left hand opening. Standard doors fit 19" nel space. When ordering, specify type of Bud cabinet for ich door is intended.

Reg. Rohm & Haas Co. TM.

Bud Number	Vert. Panel Space, Inches	Net Each, Lots of 1-2	3-4	5-7	8-10
FOR UPRIGHT RACKS					
V-9060	21	$241.50	$217.35	$193.20	$181.15
V-9061	31 1/2	254.65	229.20	203.70	191.00
V-9062	35	261.90	235.70	209.50	196.45
V-9063	42	284.50	256.05	227.60	213.40
V-9064	52 1/2	294.70	265.25	235.75	221.05
V-9065	61 1/4	331.15	298.05	264.90	248.35
V-9066	70	365.95	329.35	292.75	274.45
V-9067	78 3/4	384.70	346.25	307.75	288.55
FOR INCLINED RACKS					
V-9068	29 3/4	$251.55	$226.40	$201.25	$188.65
V-9069	24 1/2	248.40	223.55	198.70	186.30
V-9070	22 3/4	242.70	218.45	194.15	182.05



60-2360

SERIES SIXTY DESK TOP

May be used in connection with any Series Sixty enclosure. Furnished completely assembled with antique white Formica* surface. Fastens to panel mounting rails by two pre-drilled channels. Will support in excess of 200 lbs. Surface 24⅛" wide, 19½" deep, 3⅛" high. **Specify Color:** Gray textured (**GT**) or royal blue textured (**RB**).

Bud No.	Fits Series Sixty	Support Channel	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2360	With 22" depth	21¼" long	22	$104.50	$94.05	$83.60
60-2362	With 25½" depth	24¼" long	23	107.85	97.05	86.30

*Registered Synthane Corp. trademark.

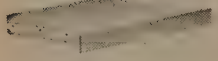


60-2364

SERIES SIXTY TURRETS

Made of 16 gauge steel; designed so that any one of three sides may be attached to a Series Sixty upright rack or any horizontal surface. Accommodate standard 19" panels. All mounting rails have universal spacing. Sides easily removed when a series of interconnecting turrets are desired. **Specify Color When Ordering:** Add suffix **RB** to number for Royal blue textured; **GT** for gray textured.

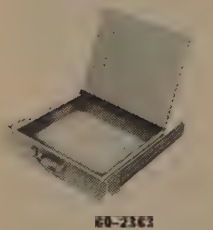
Bud No.	Width	Depth	Height	Panel Space Sloping	Bottom	Rear	Wt., Lbs.	Net Each, Lots of 1-2	3-4	5-7
60-2364	22⅛"	17⅛"	12⅝"	17½"	14"	8¾"	17	$ 98.10	$88.30	$78.50
60-2365	22⅛"	14⅛"	10⅜"	12¼"	10½"	7"	14	82.15	73.95	65.70
60-2366	22⅛"	20⅛"	14⅜"	21"	17½"	10½"	20	103.05	92.75	82.45



60-2361



60-2380



60-2363

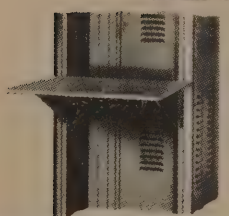
SERIES SIXTY DRAWER, DESK TOP, AND SHELF ACCESSORIES

No. 60-2368 Drawer: Fits into any Series Sixty cabinet rack. Slides easily on nylon rollers. Will support heavy loads. Extends to full depth; stops prevent drawer from falling out. Slides easily attach to panel supporting rails. Silver anodized handles. Shipped completely assembled. Specify panel color: White (**WH**); Luster Gray (**LG**). **No. 60-2361 Sliding Desk Top:** Fits all Series Sixty racks. Has smooth Formica* surface for writing, servicing or inspection. Fits flush with front of unit. Usable area when fully extended, 11" x 17⅝". Occupies only 1¾" of panel height. Will support 50 lbs. Ball-bearing slide mechanism mounts directly in Series Sixty racks; brackets included to fit other Bud cabinets and consoles. Specify panel color: White (**WH**); Luster Gray (**LG**). **No. 60-2363 Desk Top Drawer:** Fits Series Sixty racks. Has Formica surface. Fits flush with front of unit. Hinged desk top on drawer holds small tools or parts. Special front-panel latch both locks and releases drawer or top as desired. Mounts to cabinet U-braces; slides travel on nylon rollers. Hardware supplied. **No. 60-2380 and 602381 Shelves:** Ideal for support of chassis, power supplies or other equipment; also may be used as base plate for bottom support. Of one-piece 16 gauge steel with flanged front and rear for extra strength and rigidity. Easily bolted to cabinet U-braces. Will support 200 lbs. Hardware supplied. Specify panel color: White (**WH**); Luster Gray (**LG**).

Bud No.	Size, Inches	Wt., Lbs.	Net Each, Lots of 1	2	3-4
60-2368†	16⅜ x 6⅝ x 19⅜ inside	28	$124.65	$112.20	$ 99.70
60-2361†	17⅝ x 15½ with 1¾" x 19" panel	9¼	63.00	56.70	50.40
60-2363†	16¹¹⁄₁₆ x 3½ x 15 inside; 19 x 3½ front panel	19	141.10	127.00	112.90
60-2380‡	17⅛ w. x 19¼" d.	8¼	25.60	19.20	17.30
60-2381‡	17⅛ w. x 22¼" d.	8½	26.80	20.10	18.10

*Synthane Corp. trademark. Add suffix **WH** for white; **LG** for gray. †May be used on Series 20, 60, 2000, Concorde, and Classic II. ‡ May be used on Series 20, 60, 2000, and Concorde.

SHELF ASSEMBLY



Immediately adds extra utility to a standard rack at very little cost. Useful as a desk, work space, etc. Gray or black rinkletex finish or gray hammertone finish will match all standard Bud rack finishes. Can't fall off or tilt; will support any reasonable weight. Shelf portion supported by two brackets, punched to fit standard panel mounting strips. No panel support needed but can be attached over panel if desired. Slides welded to bottom of shelf; mounting brackets slip into slides and fasten with two screws. All necessary hardware furnished. Formed of 16 gauge steel; ⅜" flange on all three sides; overall height, 7⅛". Brackets are 7" high. Specify gray textured (**GT**) or royal blue textured (**RB**) finish.

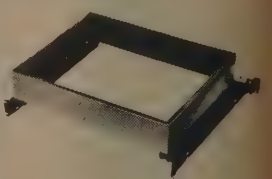
Bud No.	Size, Inches D. x W.	Wt., Lbs.	Net Each, Lots of 1	2-24	25-34
SA-1719	16 x 22	13¼	$34.50	$34.50	$31.05
SA-1720	20 x 22	15¼	36.55	36.55	32.90

RACK SHELVES

Heavy gauge steel shelves with 1" flange for rigidity and strength. Mount on chassis supporting angles in rack to hold power supplies, modulators, etc. Width 19". Smooth black finish.

Bud No.	Depth, Inches	Weight, Lbs.	Net Each, Lots of 1	2-49	50-99
CB-1976	15	6	$16.30	$13.60	$12.25
CB-1977	12	5	12.70	10.60	9.55

SLIDING DRAWER ASSEMBLY



Installs quickly and simply in any standard rack. Can't fall out or tilt. Provides a completely safe mounting base. Ball bearing suspension for easy sliding. Slide rail fastens securely to chassis, slides in and out easily on channeled ball bearings. Chassis, slide and plate finished in luster gray. Will support up to 30 lbs. **Chassis Size:** 16¾" x 14" x 3". Drawer plate fastens to top or bottom. Finish: Luster Gray (**LG**).

Bud No.	Description	Wt., Lbs.	Net Each, Lots of 1	2-24	25-34
SD-1717	Sliding drawer	5	$41.65	$41.65	$37.50
TP-1718	Drawer plate	1½	12.00	10.00	9.00

DRAWER WITH ADJUSTABLE SLIDES



Fits any cabinet or cabinet rack with 19" panel space. Slide bracket adjustable 16½" to 24¼" to fit any cabinet with depth 17" to 25½". Fastens by bracket to panel mounting rail in front and rear of cabinet. Nylon rollers for smooth movement. Hardware supplied. Specify color when ordering: Add suffix **WH** for white textured; **LG** for luster gray.

Bud No.	Inside Size, Inches	Wt., Lbs.	Net Each, Lots of 1-9	10-14	15-19
D-1721	16⅝ x 6⅜ x 16⅜	19½	$117.05	$105.35	$93.65

Relay Racks

DELUXE RELAY RACKS

igh quality relay racks made of 16-gauge steel with 7/64" panel ipports. Panel mounting supports are recessed so that no panel iges will be exposed. Both back and sides are fully louvered for eat ventilation. Snap catches are positioned on the door. Rounded rners give streamlined appearance. Base constructed with four ecial supports so that casters may be applied to base directly for obility. Racks are 22" wide to accept all standard 19" panels.

ll Racks Listed are shipped knocked-down with all necessary ardware and assembly instructions. Casters optional. When dering specify finish. Add suffix **RB** for royal blue textured; **G** for luster gray.

DELUXE RELAY RACKS WITH 19" WIDE PANEL SPACE

Bud No.	Size, Inches: Height Overall	Depth Overall	Panel Space	Wt. Lbs.	Net Each, Lots of: 1-9	10-14	15-19
CR-1774	42 1/16	17 1/8	36 3/4	82	$172.85	$155.55	$138.30
CR-1771	47 5/16	17 1/8	42	92	186.80	168.10	149.45
CR-1772	66 5/16	17 1/8	61 1/4	115	234.05	210.65	187.25
CR-1780	75 5/16	17 1/8	70	125	250.90	225.80	200.70
CR-1773	82 5/16	17 1/8	77	135	269.45	242.50	215.55
CR-2074	42 1/16	22 1/8	36 3/4	98	199.80	179.80	159.85
CR-2071	47 5/16	22 1/8	42	102	233.70	210.35	186.95
CR-2072	66 5/16	22 1/8	61 1/4	137	283.05	254.75	226.45
CR-2075	75 5/16	22 1/8	70	148	288.25	259.45	230.60
CR-2073	82 5/16	22 1/8	77	159	336.00	302.40	268.80

PRESTIGE BALL CORNER RACKS



ttractive, practical housing for permanent r mobile instrumentation. Standard Pres-ge relay rack consists of framework, top, ottom, two ball cornered sides, and a ball orner door. Sides attach to frame by means f a tongue-and-slot arrangement at bottom nd two screws at top. Sides easily removable or access. Drilled and tapped panel mounting ails on all four vertical members of frame. oors mount from either left or right side. lotted base takes ball-cornered side panels n any of the four sides. Door and side clear-nce permits covering of equipment without amage to knobs or controls. Provision made or recessed casters. Inside clearance 21½" 21⅛". Outside dimensions 23⅛" x 24⅛". Knockout holes provided for attaching two r more units together. Units take Bud D-1717 sliding drawer assembly or 60-2368 rawer. Shipped knocked-down, with nec-ssary assembly hardware. Luster gray (**LG**) nish only. **Furnished with adjustable panel nounting rails.**

Bud No.	Size, Inches: Overall Height	Panel Space	Net Each, Lots of: 1-9	10-14	15-19
CR-2280	66 5/16	61½	$400.10	$360.25	$320.25
CR-2281	71 13/16	66½	410.00	369.00	328.00
CP 2282	82 5/16	77	460.90	414.80	368.70

TELEPHONE-TYPE RELAY RACKS



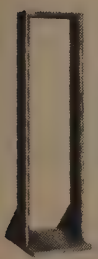
Heavy Duty Model RR-1265: Two 3½" x 4 7/8" x ¼", 20⅜" long angles form base. Steel channels are 3" x 1⅛", 71 23/32" long. Cross bars are ⅛" x 1 5/16" angles. Panel holes tapped 12-24 with W.E. space. Black finish only. Usually bolted to floor.

Standard Models: 3" channels and crossbars of 7/64" steel. Base has chassis type bottom with side angles. Base drilled for RC-7756 casters. Suffix **LG** for luster gray; **BT** for black textured.

FOR 19" WIDE PANELS

Bud No.	Size, Inches: Height, Overall	Panel Space	Net Each, Lots of: 1-9	10-14	15-19
RR-1263	35⅝	31½	$ 68.80	$ 61.90	$ 55.05
RR-1363	40⅞	36¾	69.15	62.25	55.30
RR-1264	70⅝	66½	82.25	74.05	65.80
RR-1364	75⅞	71¼	86.50	77.85	69.20
RR-1366	81⅛	77	90.25	81.25	72.20
RR-1265	72¼	66½	134.75	121.30	107.80

DELUXE TELEPHONE-TYPE RELAY RACKS



Sturdy open rack with extra strength and greater capacity. Upright U-member is unitize-welded with ventilation provided at top. Two panel-mounting rails, at front and rear, tapped 10-32 with W.E. spacing. Made of 12 ga. steel throughout. Chassis-type base drilled for RC-7756 casters. Triangular brackets hold uprights to base; holes provided on both sides for bolting racks together in "Add-A-Rack" manner. Add suffix **LG** for luster gray; **BT** for black textured. Racks have 20⅞" x 26" base and take 19" wide panels.

Bud No.	Size, Inches: Height, Overall	Panel Space	Net Each, Lots of: 1-9	10-14	15-19
RR-1367	64⅝	61¼	$166.40	$149.75	$133.10
RR-1368	73½	70	179.00	161.10	143.20
RR-1369	80⅛	77	190.45	171.40	152.35

TABLE-MOUNT TELEPHONE RACK

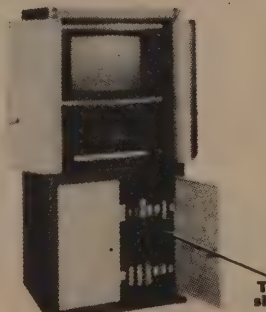
Sturdy rack with chassis type base mounts heavy components on table where enclosures are not required. Panel mount rails recessed for flush mount of 19" panels. Shipped knocked down. Base is 12" x 20⅜". Specify Luster gray (**LG**) or black textured (**BT**).

Bud No.	Size, Inches: Height, Overall	Panel Space	Wt., Lbs.	Net Each, Lots of: 1	2-14	15-24
RR-1248	24	21	14½	$37.75	$34.00	$30.20
RR-1249	31	28	16¼	44.10	39.70	35.30

VTR SYSTEM CABINET AVS-500

Compact, easily-movable unit provides a convenient, one-station VTR center for a wide range of audio-visual (AV) applications. Unit can also be used to effectively house any AV system. Upper section designed to house video tape recording equipment; TV monitor and video tape recorder deck. Top shelf holds television monitor; clear inside dimensions, 18" h. x 26" w. x 22" d. Lower shelf holds video tape recording deck; clear inside dimensions, 11" h. x 26" w. x 22" d. Louvered rear panel is notched for power cord entry. Lower section provides deep, two-shelf storage for video tape cassettes. Sides, top, bottom, dividers and shelf assemblies are constructed of 16-gauge steel. Door assemblies and rear panels are 18-gauge steel. Shelves in upper section are reinforced to support the heavy equipment. Front doors bi-fold to a 270-degree opening, affording maximum viewing area when VTR system is in operation. Flush-mounted cam locks on all doors. Four heavy-duty casters and hardware included. Delivered assembled. **Finish:** Black textured (**BT**). **Weight:** 255 lbs.

No. AVS-500 VTR System Cabinet—Net Each.....**$634.85**



BUD Relay Rack Panels, Boxes, Cases

STANDARD RELAY RACK PANELS



Choice of steel or aluminum relay rack panels, 1/8" or 3/16" thick, in both 19" and 24" widths. Finishes: White textured (**WH**) or luster gray (**LG**). Aluminum panels 5005 H-36 or 2024 T-3 alloy.

Ht., In.	24" WIDE PANELS — 1/8" 5005 H-36 ALUMINUM — Bud No.	Net Each, Lots of 1	2-49	50-99	19" WIDE PANELS — 3/16" 5005 H-36 ALUMINUM — Bud No.	Net Each, Lots of 1	2-49	50-99
1¾	PA-2401	$ 8.90	$ 7.45	$ 6.70	PA-3101	$ 8.70	$ 7.25	$ 6.55
3½	PA-2402	11.60	9.70	8.75	PA-3102	12.40	10.35	9.30
5¼	PA-2403	15.60	13.05	11.75	PA-3103	16.40	13.70	12.35
7	PA-2404	18.00	15.05	13.55	PA-3104	20.10	16.80	15.10
8¾	PA-2405	22.50	18.80	16.90	PA-3105	23.80	19.85	17.85
10½	PA-2406	27.30	22.80	20.50	PA-3106	30.20	25.20	22.70
12¼	PA-2407	30.80	25.70	23.15	PA-3107	34.50	28.80	25.90
14	PA-2408	37.10	31.00	27.90	PA-3108	38.50	32.15	28.95
15¾	PA-2409	40.10	33.50	30.15	PA-3109	41.00	37.40	33.65
17½	PA-2410	41.00	35.00	31.50	PA-3110	43.50	41.00	36.90
19¼	PA-2411	42.50	38.35	34.50	PA-3111	44.90	44.90	40.40
21	PA-2412	43.75	42.25	38.05	PA-3112	48.95	48.95	44.05

19" WIDE 1/8" STEEL AND ALUMINUM PANELS

Ht., In.	11 GAUGE STEEL — Bud No.	Net Each, Lots of 1	2-49	50-99	1/8" 2024 T-3 ALUMINUM — Bud No.	Net Each, Lots of 1	2.49	50-99	1/8" 5005 H-36 ALUMINUM — Bud No.	Net Each, Lots of 1	2-49	50-99	Ht., In.
1¾	PS-1250	$ 4.80	$ 4.00	$ 3.60	PA-1131	$ 7.30	$ 6.10	$ 5.50	PA-1101	$ 5.70	$ 4.75	$ 4.30	1¾
3½	PS-1251	5.80	4.85	4.35	PA-1132	10.60	8.85	7.95	PA-1102	7.80	6.50	5.85	3½
5¼	PS-1252	9.20	7.70	6.95	PA-1133	16.00	13.35	12.00	PA-1103	10.20	8.50	7.65	5¼
7	PS-1253	10.00	8.35	7.50	PA-1134	20.20	16.85	15.15	PA-1104	12.70	10.60	9.55	7
8¾	PS-1254	11.40	9.50	8.55	PA-1135	24.10	20.10	18.10	PA-1105	14.30	11.95	10.75	8¾
10½	PS-1255	12.80	10.70	9.65	PA-1136	28.50	23.80	21.40	PA-1106	18.50	15.45	13.90	10½
12¼	PS-1256	14.30	11.95	10.75	PA-1137	33.00	27.55	24.80	PA-1107	21.30	17.80	16.00	12¼
14	PS-1257	15.50	12.95	11.65	PA-1138	36.00	31.40	28.25	PA-1108	24.60	20.55	18.50	14
15¾	PS-1258	17.90	14.95	13.45	PA-1139	37.00	33.75	30.40	PA-1109	27.10	22.65	20.40	15¾
17½	PS-1259	19.70	16.45	14.80	PA-1140	37.90	37.90	34.10	PA-1110	29.70	24.80	22.30	17½
19¼	PS-1260	23.30	19.45	17.50	PA-1141	42.35	42.35	38.10	PA-1111	32.20	26.90	24.20	19¼
21	PS-1261	24.40	20.35	18.30	PA-1142	46.60	46.60	41.95	PA-1112	36.00	30.05	27.05	21

SURFACE SHIELD PANELS

Bright aluminum alloy 5005 H-36 panels have blemish-free mill finish. Covered on front side with sturdy, pressure-sensitive, white paper; protects against damage and useful for marking for drilling, positioning, etc. Standard panel notching.

Ht., In.	1/8" ALUMINUM — Bud No.	Net Each, Lots of 1	2-49	50-99	3/16" ALUMINUM — Bud No.	Net Each, Lots of 1	2-49	50-99
1¾	SFA-1831	$ 5.00	$ 4.20	$ 3.80	SFA-3161	$ 9.30	$ 7.75	$ 7.00
3½	SFA-1832	7.20	6.00	5.40	SFA-3162	12.90	10.75	9.70
5¼	SFA-1833	9.30	7.75	7.00	SFA-3163	16.90	14.10	12.70
7	SFA-1834	11.90	9.95	8.95	SFA-3164	21.40	17.85	16.05
8¾	SFA-1835	13.10	10.95	9.85	SFA-3165	25.10	20.95	18.85
10½	SFA-1836	16.90	14.10	12.70	SFA-3166	29.40	24.55	22.10
12¼	SFA-1837	19.60	16.35	14.70	SFA-3167	37.20	31.05	27.95
14	SFA-1838	21.00	17.55	15.80	SFA-3168	42.50	35.50	31.95
15¾	SFA-1839	24.90	20.80	18.70	SFA-3169	44.50	39.65	35.70
17½	SFA-1840	27.40	22.90	20.60	SFA-3170	46.00	41.40	37.25
19¼	SFA-1841	30.50	25.45	22.90	SFA-3171	48.35	43.50	39.15
21	SFA-1842	33.20	27.70	24.95	SFA-3172	52.20	52.20	47.00

CHASSIS MTG. BRACKETS



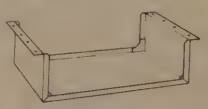
Mounts chassis to panels; supports entire chassis weight. Heavy gauge steel 6½" high, cut away at bottom to mount flush to panel. Black finish.

Bud No.	Depth, In.	Net per Pair, Lots of 1	2-99	100-199
MB-458	8	$ 7.70	$ 6.45	$5.80
MB-448	10	9.00	7.50	6.75
MB-459	11	8.30	6.95	6.25
MB-449	12	10.10	8.45	7.60
MB-460	13	11.50	9.60	8.65
MB-450	10	10.90	9.10	8.20
MB-451*	13	12.10	10.10	9.10

*8½" high for chassis height of 4".

ALUMINUM PANEL CHASSIS

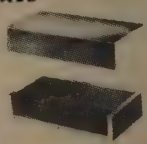
Fastens to mounting rails. Can be used as a vertical chassis where depth is limited or where front service is required. Constructed of .060" aluminum alloy. Natural finish.



Bud No.	Height, Ins.	Weight, Lbs.	Net Each, Lots of 1	2-49	50-99
CB-1370	1¾	¾	$ 8.70	$ 7.25	$ 6.55
CB-1371	3½	1¼	9.70	8.10	7.30
CB-1372	5¼	1½	11.20	9.35	8.40
CB-1373	7	2	13.40	11.20	10.10
CB-1374	8¾	2¼	15.60	13.05	11.75
CB-1375	10½	2¾	18.10	15.10	13.60
CB-1376	12¼	3	20.10	16.80	15.10
CB-1377	14	3¼	22.40	18.70	16.85

CONVERTA-BOXES

Versatile enclosure combines welded base and two-sided cover. Components or controls are easily mounted to any surface of the unit. All contents easily accessible. Cover and base are fastened by self-tapping screws. Rigid 20 ga. cadmium-plated steel.



Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of 1	2-99	100-199
CU-341	1½ x 4 x 3	½	$7.30	$6.10	$5.50
CU-452	2 x 5 x 4	¾	7.80	6.50	5.85
CU-482	2 x 8 x 4	1¼	8.20	6.85	6.15
CU-592	2½ x 9½ x 5	1¾	8.90	7.45	6.70
CU-622	2½ x 12 x 6	2¼	10.70	8.05	7.25
CU-712	2½ x 15 x 7	3	13.30	11.10	10.00

TRANSICASE PORTABLE INSTRUMENT CASES

Handsome, portable instrument case with unlimited applications. Contour design fabricated of .040" aluminum with flush-fitting aluminum panel. Lid protects instruments in case; mounted on two slide-off, bright nickel-plated hinges with toggle catches. Rubber feet at both base and back; metal plugs supplied to fill holes if rubber feet are not used. Black plastic handle. **Specify Color:** Add suffix **RB** for royal blue textured; **GT** for gray textured.



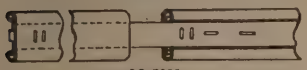
Bud No.	Inside Panel Size, Inches	Clear Internal Space, Inches: Below Panel	Above Panel	Internal Aperture, Inches	Overall Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
TC-300	9 x 5 5/16	4 3/8	1 7/16	8 x 5 31/32	10 1/16 x 7 x 6	2½	$59.55	$53.60	$47.65
TC-301	10 7/16 x 7¼	4 3/8	1 7/16	9 7/16 x 7 9/32	11½ x 8¼ x 6	3¼	61.20	55.10	48.95
TC-302	11 5/16 x 7 5/16	5 7/8	1 7/16	10 5/16 x 7 31/32	13 x 9 x 7½	4	68.65	61.80	54.90
TC-303	15 7/16 x 7 5/16	5 7/8	1 7/16	14 7/16 x 7 31/32	16½ x 9 x 7½	4¾	69.45	62.50	55.55
TC-304	19 1/16 x 7	7 5/16	1 7/16	18 1/16 x 7 1/32	20 1/8 x 8 x 9	6¾	76.76	69.10	61.40

Slides and Blowers

PRECISION SLIDING MECHANISMS



AS-5060



AS-5020



AS-5080

All steel commercial design provides a wide variety of models for a wide range of purposes. Provides smooth, light telescoping movement with unsurpassed reliability and minimal wear. **Specifications:** Slide members and component parts made from work hardened, cold rolled steel; bearings are nickel-plated carburized steel. Electro-zinc plate finish; grease is high-low temperature type. **Mounting:** Units require mounting brackets as specified in table below. One pair of front and one pair of rear brackets needed for each slide for attachment of slides to rails. One each NAS-5110 rail bar nut used with each mounting bracket.

2 MEMBER, ¾ EXTENSION FRICTION DISCONNECT

Bud Number	Slide Length, Inches	Slide Travel, Inches	Load Rating, Lbs.	Net per Pair, Lots of 1	2-4	5-9
AS-5000	12	8⅞	140	$28.20	$21.15	$19.05
AS-5001	16	11⅞	120	32.60	24.45	22.00
AS-5002	20	14⅞	92	35.70	26.80	24.10
POSITIVE STOP						
AS-5060	12	8⅞	108	$25.70	$19.30	$17.35
AS-5061	16	11⅞	95	28.00	21.00	18.90
AS-5062	20	14⅞	82	29.20	21.90	19.70

3 MEMBER, FULL EXTENSION POSITIVE STOP

AS-5020	12	12.88	175	$50.25	$50.25	$45.25
AS-5021	16	16.88	160	55.75	55.75	50.20
AS-5022	20	20.88	142	60.25	60.25	54.25
POSITIVE W/FRONT DISCONNECT, ⅛ SIDE SPACE						
AS-5040	12	11.88	120	$66.45	$66.45	$59.80
AS-5041	16	15.88	108	72.00	72.00	64.80
AS-5042	20	19.88	92	76.90	76.90	69.20

DUAL MEMBER W/DRAWER SECTION, FULL EXTENSION AND LIFT-OFF DISCONNECT

Three-piece slide, recommended for light loads. Positive stop at full extension. Front disconnect allows removal and reinsertion of chassis members without using tools. Full extension. ⅜" side space.

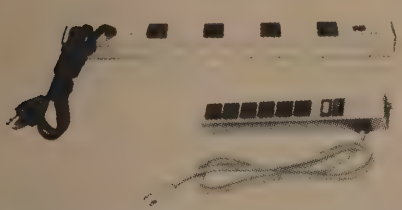
AS-5080-A	12	12.88	120	$58.20	$58.20	$52.40
AS-5081-A	16	16.88	108	59.40	59.40	53.45
AS-5082-A	20	20.88	92	65.25	65.25	58.75

MOUNTING BRACKETS

Bud No.	Description	Net Each, Lots of 1	2-4	5-9	Bud No.	Description	Net Each, Lots of 1	2-4	5-9
BAS-5100	Front bracket*	$3.40	$2.55	$2.30	BAS-5103	Rear bracket**	$3.40	$2.55	$2.30
BAS-5101	Rear bracket*	3.40	2.55	2.30	NAS-5110	Bar nut	3.40	2.55	2.30
BAS-5102	Front bracket**	3.40	2.55	2.30	SB-5107	Adapter kit†	3.40	2.55	2.30

*For use with AS-5000, AS-5060, AS-5020 Series. **For use with AS-5040, AS-5080 Series. †For use with Series 2000, Series 60 Series 20, Classic and Concorde cabinets.

POWER OUTLET STRIPS

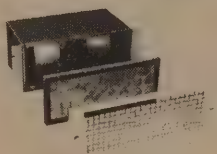


Strips snap into adjustable mounting clips. Grounding type, 15 amp, 125 Volt receptacles. Circuit breaker is 15 amp thermal type with reset. Models 6 and 66 have 14 gauge, 3-wire power cord; others have 12 gauge solid conductor. All have 6-foot cords. All components UL approved. **Surge Suppressor:** When exposed to high energy voltage, the surge suppressor inpedance changes from a high standby value to a very low conducting value, thus clamping the voltage level to a safe value and protecting voltage-sensitive components against damage.

Bud No.	No. of Outlets	Length, Inches	Net Each, Lots of 1-9	10-14	15-19
POS-4	4	17½	$56.20	$50.60	$44.95
POS-6	6	12¼	41.70	35.55	33.75
POS-7	7	48	59.20	53.30	47.35
POS-9	9	60	65.05	58.55	52.05
POS-11	11	72	70.90	63.80	56.70
POS-66*	6	12¼	51.95	46.75	42.10

*Has surge-suppression components.

TRANS-AIRE BLOWER



Brings in fresh air or exhausts heated air to cool equipment in an enclosed rack or cabinet. May be mounted to rails of standard rack or cabinet. Use of Bud Chassis Support Angles is recommended. Rubber-mounted motor. Thermal overload protection. Disposable fiberglass filter is removable without disturbing the blower. Guaranteed for 20,000 hours of continuous service.

Bud No.	Size† D. x H.	Air c.f.m. High	Low	Motor Watts	rpm	Filters Bud No.
B-23A	12" x 3½"	125	100	125/100	1450/1250	BF-24
B-25A	14½" x 5¼"	375	200	375/200	1420/1075	BF-26
B-27A	14½" x 7"	550	300	550/350	1350/1150	BF-28
B-50*	6 13/32" x 3½"	150	.....	80	3150	BF-24
B-52*	9 1/32" x 5¼"	150	.....	80	3000	BF-53
B-54*	10 5/16" x 7"	300	.....	60	1550	BF-55

*Brings in fresh air only. †All for standard 19" rack.

TRANS-AIRE BLOWER AND FILTER PRICING

Bud No.	Net Each, Lots of 1-9	10-14	15-19	Bud No.	Net Each, Lots of 2-49	50-99	100-149
B-23A	$196.00	$176.40	$156.80	BF-24	$3.30	$2.95	$2.65
B-25A	223.60	201.25	178.90	BF-26	3.75	3.40	3.00
B-27A	251.85	226.65	201.50	BF-28	3.00	2.70	2.40
B-50	181.30	163.15	145.05	BF-53	2.65	2.40	2.10
B-52	183.45	165.10	146.75	BF-55	2.80	2.50	2.25
B-54	217.50	195.75	174.00				

"TEM-STAT" TEMPERATURE CONTROLS
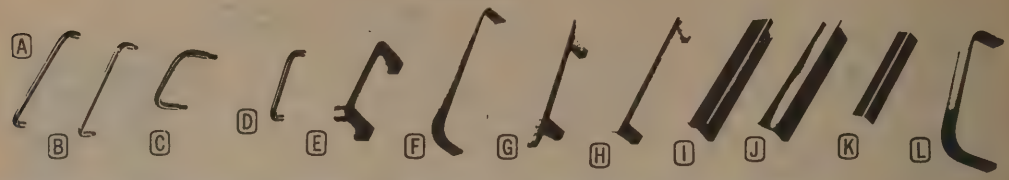
Prevent shut-downs caused by over-heating of electronic or electrical equipment in enclosures. Unit reacts instantly to gradual or sudden temperature changes. Temperature accuracy, ±8° F. Contacts remain closed until there is a 10° ±5° F drop in temperature. Can also be used for temperature control in convection and radiant heating applications.

For easy attachment. UL Recognized. Small size, 2 13/16" lg. x 1" w. x 1 7/32" d., suitable for limited space applications. **UL Rating:** 8 amps, full load, 115 VAC (48 amps, locked rotor). 100,000 cycles motor rating; derate 50% for 230 VAC. Full load 13.8 amps 120 VAC (82.8 amps, locked rotor). 6,000 cycles motor rating; derate 50% for 240 VAC. Pilot duty, 125 VA at 115/230 VAC; or, 250 mV or more.

Bud No. TS-15—80°-170° F. Net Each..... **$10.60**
Net Each, Lots of: 2-9..... **$10.60**; 10-14..... **9.55**

Cabinet Accessories

BUD HANDLES



Fabricated from steel, brass or cast aluminum. Durable finish provides long wear and attractive appearance. Skin packed in pairs or bulk packed (priced singly) with all necessary mounting hardware. Designed for rugged applications, they have unlimited use in electronic, electrical and other fields.

Bud No.	Fig.	Description	Net per Pair, Lots of† 1	2-49	50-99
H-9110	A	⅛″ steel rod angular formed, chrome plated; 6″ mtg. centers; 1¼″ hand clearance; two ⅜″ x 10-32 screws	$14.20	$10.65	$ 9.60
H-9111	A	⅛″ steel rod, chrome plated, 4″ mtg. centers; 1″ hand clearance; two ⅜″ x 10-32 threaded screws	8.60	6.45	5.80
H-9112	A	6″ mtg. center version of H-9111	11.00	8.25	7.45
H-9113	A	8″ mtg. center version of H-9111	12.80	9.60	8.65
H-9114	A	½″ steel rod, chrome plated; 8″ mtg. centers; 1½″ hand clearance; two ½″ x ¼-28 thd. screws	16.90	12.70	11.45
H-9115	B	⅜″ steel rod, chrome plated; 4″ mtg. centers; 1⅜6″ hand clearance; two ¼-28 thd. nuts	11.90	8.95	8.05
H-9116	B	Same, but has 6″ mtg. centers	13.30	10.00	9.00
H-9149	.....	5¾″ x 3 1⅜6″ black shell, chrome handle; flip-up and out handle lies flat in frame when not in use; for Classic Series cabinets; four 8-32 x ½″ countersunk screws with nuts	38.40	28.80	25.90
H-9160	C	Chrome plated ⅜″ steel rod; 3½″ mtg. centers; 1 1⅛6″ hand clearance; two ¼″-28 hex nuts	13.90	10.30	9.25
H-9161	C	Same, but with 5¼″ mounting centers	15.90	11.95	10.75
H-9162	C	Same, but with 7″ mounting centers	18.30	13.75	12.40
H-9163	C	Same, but with 8¾″ mounting centers	15.60	11.70	10.55
H-9164	C	Same, but with 10½″ mounting centers	18.60	13.95	12.55
H-9165	C	Same, but with 12¼″ mounting centers	21.40	16.05	14.45
H-9166	D	Chrome plated ¼″ brass rod; 1 1⅛6″ mtg. centers; 1″ hand clearance; two ⅜″ x 6-32 thd. screws	6.00	4.50	4.05
H-9168	D	Same, but 3″ mtg. centers; two ⅜″ x 6-32 thd. screws	6.70	5.05	4.55
H-9170B	E	Rectangular, anodized aluminum; 2¾″ mtg. centers; 1¼″ hand clearance; two 8-32 screws	9.60	7.20	6.50
H-9174B	F	Anodized aluminum; 4″ mtg. centers; 1⅛″ hand clearance; two 8-32 screws	6.00	4.50	4.05
H-9176B	G	Anodized aluminum; 3¼″ mtg. centers; ¾″ hand clearance; two 8-32 screws	6.50	4.90	4.40
H-9177B	H	Anodized aluminum; 4⅜″ mtg. centers; ¾″ hand clearance; two 8-32 screws	6.50	4.90	4.40
H-9178B	I	Anodized aluminum with black trim; centers; ¾″ hand clearance; two 8-32 screws	7.90	5.95	5.35
H-9179B	J	Anodized aluminum; 4″ mtg. centers; ⅝″ hand clearance; two 8-32 screws	7.10	5.35	4.80
H-9180B	K	Anodized aluminum with black trim; 4″ mtg. centers; two 8-32 screws	8.30	6.25	5.65
H-9183B	L	Anodized aluminum; 4⅜6″ mtg. centers; sloping hand clearance, min. 1⅛″; two 8-32 screws	6.70	5.05	4.55
UH-70A	.....	Handle. Formed from aluminum tubing with etched finish. 5⅛″ long with 4⅝″ mtg. ctrs.	2.00	1.50	1.35
UH-71A	.....	Same as UH-70A except 3⅜″ long with 3¼″ mtg. ctrs.	1.80	1.35	1.20
H-3360	.....	Non-locking lever type handle. Satin chrome finish.	24.70	20.60	18.55
HL-3361	.....	Same as H-3360 except with lock and key.	35.50	29.65	26.70
H-9352	.....	Flush latch of black thermoplastic with stainless steel spring. 2¼″ x 1 5⅜4″ x 3 7⅛4″.	3.30	2.75	2.50
H-9350	.....	Same as H-9352, except 2¼″ x 1 7⅛4″ x 3 7⅛4″.	2.40	2.00	1.80

†Number shown is for skin packed pairs. *For bulk packed handles (priced singly), add suffix **B** to Bud No. (example: H-9110**B**).

PLASTIC AND RUBBER FEET

No. F-7264-A: Has recessed head with mounting hardware. Plastic portion is ¾″ x ¾″. **No. F-7800-A:** Same as No. F-7264-A, except plastic portion is ⅞″ diam. x ½″ high. **No. F-8038:** A self-adhesive sponge rubber pad ¾″ x ⅛″ thick; may be applied to any surface. **No. F-9653:** Press-fit type for ⅞″ diam. hole. **No. F-3581:** Self-adhesive rubber feet ½″ square x 7⁄32″ high. **No. F-3599:** Same as No. F-3581, except 1 3⁄16″ square x 5⁄16″ high.

Bud No.	Description	Net Each, Lots of 100	101-299	300-499
F-7264-A	High grade black rubber	$41.40	$34.55	$31.10
F-8038	Adhesive pad	10.00	8.35	7.50
F-9653	Press-fit type	18.40	15.40	13.80



TRIANGULAR MOUNTING BRACKETS

Heavy-gauge steel; ¼″ flanges support chassis. Black primer finish. Available in pairs only.

Bud No.	Size, Inches Height	Depth	Wt., Lbs.	Net per Pair, Lots of 1	2-99	100-199
MB-1266	5	5	½	$5.00	$4.20	$3.80
MB-1267	7	7	1	6.00	5.00	4.50
MB-1268	9	9	1½	7.50	6.25	5.65

CASTERS AND LEVELERS

Bud No. RC-7760 Caster—Black nylon wheel and hood with steel pin ⅜″ x 16 thread. Load rating 110 lbs.

Bud No. RC-7756 Caster—Ball bearing wheels are hard tread composition. Load rating 125 lbs.

Bud No. RC-7758 Caster—Same except load rating of 200 lbs.

Bud No. RL-7765 Leveler—Black nylon construction with steel pin ⅜″ x 16 thread. Load rating 110 lbs.

Bud No. RL-7766 Leveler—Steel cap and stem with ⅜″ x 16 thread. Load rating 200 lbs. Rubber pad.

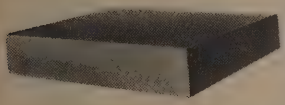
Bud No. RL-7767 Leveler—Same except white nylon pad.

Bud No. RC-7775 Caster—Heavy duty double level post swivel caster with 2″ ball cushion rubber wheel. Riveted axle. Black steel head ⅜″-16 x 1″ steel pin.

Bud No.	Height	Net Each, Lots of 1	2-49	50-99
RC-7760	2½″	$7.70	$6.45	$5.80
RC-7756	2⅝″	3.30	2.75	2.50
RC-7758	3¼″	8.90	7.45	6.70
RL-7765	2½″	3.70	3.10	2.80
RL-7766	3½″	2.60	2.15	1.95
RL-7767	3¼″	2.40	2.00	1.80
RC-7775	2½″	8.00	6.00	5.40

BUD Chassis Bases

ALUMINUM CHASSIS BASES



Each chassis is made from a single sheet of metal. All corners are reinforced and spot welded. Natural finish aluminum alloy 5005 H-14. All four sides are folded at the bottom for added rigidity and strength. Natural finish bottom plates available to fit all sizes.

Bud No.	Size, Inches D. x W. x H.	Ga.	Wt., Lbs.	Net Each, Lots of 1	2-49	50-99
AC-1401	2½ x 4½ x 1	18	⅛	$ 4.30	$ 3.60	$ 3.25
AC-1402	3½ x 4½ x 1	18	⅛	4.40	3.65	3.30
AC-1403	3½ x 5½ x 1	18	⅛	4.40	3.65	3.30
AC-1404	4 x 5 x 2	18	¼	5.10	4.25	3.85
AC-1405	4 x 6 x 1½	18	¼	4.60	3.85	3.45
AC-430	4 x 6 x 3	18	⅓	5.80	4.85*	4.35†
AC-431	4 x 6 x 2	18	¼	4.90	4.10*	3.70†
AC-1406	4 x 8 x 2	18	¼	6.10	5.10	4.60
AC-432	4 x 17 x 3	16	1	9.70	8.10*	7.30†
AC-1407	4½ x 8 x 1½	18	¼	5.70	4.75	4.30
AC-402	5 x 7 x 2	18	⅓	5.10	4.25*	3.85†
AC-429	5 x 7 x 3	18	⅓	6.10	5.10*	4.60†
AC-1408	5 x 9 x 1½	18	⅓	5.70	4.75	4.30
AC-1409	5 x 9½ x 1½	18	⅓	5.70	4.75	4.30
AC-403	5 x 9½ x 2	18	⅓	5.60	4.70*	4.25†
AC-401	5 x 9½ x 2½	18	⅓	6.60	5.50*	4.95†
AC-421	5 x 9½ x 3	18	⅓	7.10	5.95*	5.35†
AC-404	5 x 10 x 3	18	⅓	7.10	5.95*	5.35†
AC-422	5 x 13 x 3	18	¼	8.00	6.70*	6.05†
AC-1410	5 x 13½ x 2½	18	¼	7.50	6.25	5.65
AC-1411	5½ x 5½ x 1	18	⅓	5.00	4.20	3.80
AC-1412	5½ x 9½ x 1½	18	⅓	5.70	4.75	4.30
AC-1413	6 x 8 x 2	18	⅓	5.80	4.85	4.35
AC-1414	6 x 14 x 3	16	1⅛	10.40	8.70	7.85
AC-433	6 x 17 x 3	16	1¼	12.00	10.00*	9.00†
AC-405	7 x 7 x 2	18	⅓	5.60	4.70*	4.25†
AC-406	7 x 9 x 2	18	⅓	6.00	5.00*	4.50†
AC-407	7 x 11 x 2	18	⅓	7.00	5.85*	5.25†
AC-408	7 x 12 x 3	18	⅛	8.60	7.20*	6.50†
AC-409	7 x 13 x 2	18	¾	7.10	5.95*	5.35†
AC-1415	7 x 15 x 2	16	1	11.20	9.35	8.40
AC-411	7 x 15 x 3	16	1¼	11.20	9.35*	8.40†
AC-1416	7 x 17 x 2	16	1⅛	13.30	11.10	10.00
AC-1417	7 x 17 x 2½	16	1½	13.80	11.50	10.35
AC-423	7 x 17 x 3	16	1½	12.00	10.00*	9.00†
AC-1418	8 x 10 x 2½	18	1	8.70	7.25	6.55
AC-1419	8 x 12 x 2½	16	1⅛	10.40	8.70	7.85
AC-424	8 x 12 x 3	16	1¼	10.20	8.50*	7.65†
AC-425	8 x 17 x 2	16	1½	10.60	8.85*	7.95†
AC-412*	8 x 17 x 3	16	1¼	12.40	10.35*	9.30†
AC-1420	8½ x 15 x 3	16	1½	11.80	9.85	8.85
AC-1421	9 x 15 x 3	16	1½	13.30	11.10	10.00
AC-413	10 x 12 x 3	16	1¼	12.40	10.35*	9.30†
AC-414	10 x 14 x 3	16	1¼	12.40	10.35*	9.30†
AC-415*	10 x 17 x 2	16	1½	11.80	9.85*	8.85†
AC-416*	10 x 17 x 3	16	1¼	12.80	10.70*	9.65†
AC-427*	10 x 17 x 4	14	2½	19.20	16.05*	14.45†
AC-1422	10 x 17 x 5	16	2¼	27.20	22.70	20.45
AC-1423	10 x 23 x 3	14	2¼	21.30	17.80	16.00
AC-426*	11 x 17 x 2	14	2	15.10	12.60*	11.35†
AC-417*	11 x 17 x 3	14	2½	16.30	13.60*	12.25†
AC-1424	12 x 12 x 3	16	1½	16.50	13.80*	12.40†
AC-1425	12 x 17 x 2	16	1⅛	15.60	13.05*	11.75†
AC-418*	12 x 17 x 3	14	2¼	16.60	13.85*	12.45†
AC-419*	13 x 17 x 2	14	2⅛	15.40	12.85*	11.55†
AC-420*	13 x 17 x 3	14	2¼	18.10	15.10*	13.60†
AC-428*	13 x 17 x 4	14	3½	22.00	18.35*	16.50†
AC-1426	13 x 17 x 5	14	3½	31.20	26.05	23.45
AC-1427	14 x 17 x 3	14	2¼	22.70	18.95	17.05
AC-1428	15 x 17 x 4	14	3¼	31.20	26.05	23.45
AC-1429	15 x 17 x 6	14	4½	36.00	36.00	32.40
AC-1430	17 x 17 x 3	14	3¼	26.50	22.15	19.95
AC-1431	17 x 17 x 4	14	3⅞	29.50	24.65	22.20

*Punched to accomodate chassis mounting brackets. *Lots of 2–99.
†Lots of 100–199.

CHASSIS BOTTOM PLATES

Protects wiring or components, or use as dust cover on underside of chassis. Sizes to fit all standard size chassis.

Bud No.	For Chassis Size Width	Length	Wt., Oz.	Net Each, Lots of 1	2-99	100-199
BPA-1501	2½	4½	1	$ 2.10	$1.75	$1.60
BPA-1502	3½	4½	1	2.20	1.85	1.65
BPA-1503	3½	5½	2	2.20	1.85	1.65
BPA-1504	4	5	2	2.20	1.85	1.65
BPA-1505	4	6	2	2.40	2.00	1.80
BPA-1506	4	8	2	3.10	2.60	2.35
BPA-1532	4	17	4	3.10	2.60	2.35
BPA-1507	4½	8	3	3.20	2.65	2.40
BPA-1589	5	7	2	2.60	2.15	1.95
BPA-1508	5	9	3	2.50	2.10	1.90
BPA-1590	5	9½	2	2.60	2.15	1.95
BPA-1591	5	10	4	2.60	2.15	1.95
BPA-1509	5	13	4	4.20	3.50	3.15
BPA-1510	5	13½	4	4.20	3.50	3.15
BPA-1511	5½	5½	2	2.50	2.10	1.90
BPA-1512	5½	9½	3	3.10	2.60	2.35
BPA-1513	6	8	3	3.20	2.65	2.40
BPA-1514	6	14	5	4.20	3.50	3.15
BPA-1515	6	17	6	5.00	4.20	3.80
BPA-1592	7	7	3	2.60	2.15	1.95
BPA-1593	7	9	4	3.30	2.75	2.50
BPA-1594	7	11	4	3.40	2.85	2.55
BPA-1595	7	12	5	3.90	3.25	2.95
BPA-1596	7	13	8	4.40	3.65	3.30
BPA-1516	7	15	8	4.40	3.65	3.30
BPA-1517	7	17	8	4.40	3.65	3.30
BPA-1518	8	10	4	4.30	3.60	3.25
BPA-1519	8	12	6	5.40	4.50	4.05
BPA-1520	8	17	8	5.50	4.60	4.15
BPA-1521	8½	15	8	6.50	5.45	4.90
BPA-1522	9	15	8	6.80	5.70	5.15
BPA-1523	10	12	8	5.40	4.50	4.05
BPA-1524	10	14	8	5.40	4.50	4.05
BPA-1597	10	17	10	5.70	4.75	4.30
BPA-1525	10	23	14	7.70	6.45	5.80
BPA-1526	11	17	12	5.60	4.70	4.25
BPA-1527	12	12	10	5.60	4.70	4.25
BPA-1528	12	17	12	7.10	5.95	5.35
BPA-1598	13	17	14	7.90	6.60	5.95
BPA-1529	14	17	15	7.30	6.10	5.50
BPA-1530	15	17	16	10.10	8.45	7.60
BPA-1531	17	17	17	10.20	8.50	7.65

CHASSIS SUPPORTING ANGLES

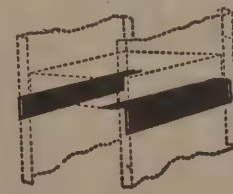


Relieves panels by distributing weight to side of rack. 3" x 1⅜" x 7/64" steel. Black primer finish. Available in pairs only.

Bud No.	Length, Inches	Weight, Lbs.	Net per Pair, Lots of 1	2-49	50-99
SA-1349	14½	3½	$11.00	$9.20	$8.30
SA-1350	12	3	11.00	9.20	8.30

PRESTIGE SUPPORTING ANGLES

Attach to rails in Prestige relay racks. Slotted for vertical adjustment. Extend from front to rear to accept full-depth chassis. Support heaviest loads. Black primer finish. Available in pairs only.



Bud No.	Size, Inches	Weight, Lbs.	Net Per pair, Lots of 1	2-49	50-99
CE-2219	21 x 3 x 2¾	6½	$17.90	$14.95	$13.45

BUD Keyboard & Instrument Enclosures

KEYBOARD ENCLOSURES

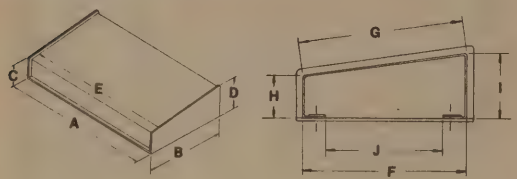
Lightweight, aluminum enclosures to house the most popular keyboard units available on the market today.

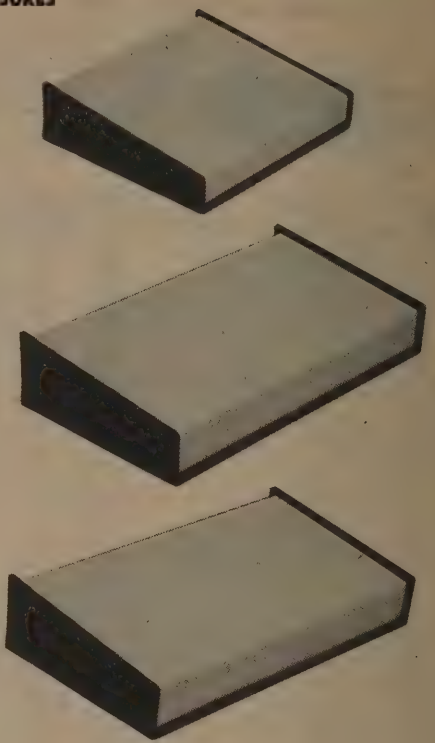
Bud No. KB-13200—Base is .09″ aluminum with gray textured enamel finish. Cover is .05″ aluminum painted with white enamel. Two rear knockouts are ½″ diameter. Angle of operating surface is 7°46′. Four flat, self-adhesive black rubber feet are supplied. Base is fastened to cover with four 6-32 x ⅜″ flat head Posidrive® screws (supplied). Net Each.....**$23.50**; Lots of 2–14.....**$19.60**; Lots of 15–24.....**$17.64**

Bud No. KB-13201—Base is .12″ aluminum with gray textured enamel finish. Cover is .05″ aluminum painted with white enamel. Two rear knockouts are ⅞″ diameter. Angle of operating surface is 7° 40′. Four flat, self-adhesive black rubber feet are supplied. Base is fastened to cover with four 6-32 x ⅜″ flat head Posidrive screws (supplied). Net Each.....**$40.65**; Lots of 2–14.....**$40.65**; Lots of 15–24.....**$36.60**

Bud No. KB-13202—Base is .12″ aluminum with gray textured enamel finish. Cover is .05″ aluminum painted with white enamel. Two rear knockouts are ⅞″ diameter. Angle of operating surface is 7° 32′. Four flat, self-adhesive black rubber feet are supplied. Base is fastened to cover with four 6-32 x ⅜″ flat head Posidrive screws (supplied). Net Each.....**$49.70**; Lots of 2–14.....**$49.70**; Lots of 15–24.....**$44.75**

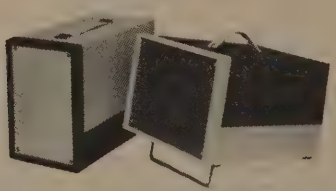
®Registered trademark, Phillips Screw Co.





Dimension	Model KB-13200	Model KB-13201	Model KB-13202
A	7 7/32″	12 57/64″	17 33/64″
B	5 3/4″	7″	9″
C	1 23/32″	1 27/32″	1 27/32″
D	2 15/32″	2 3/4″	3″
E	7″	12 5/8″	17 1/4″
F	5 1/2″	6 1/2″	8 1/2″
G	5 35/64″	6 9/16″	8 37/64″
H	1 1/2″	1 1/2″	1 1/2″
I	2 1/2″	2 3/4″	2 5/8″
J	4 5/8″	4 3/4″	6 3/4″

SHOWCASE



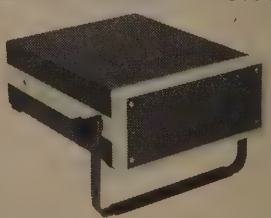
Used as desk top instrument cases, in systems, in racks, as portable enclosures. Lightweight, but sturdy, comes in ten different sizes. Top, sides and bottom are .050″ aluminum; front panel is .090″, rear panel is .050″ aluminum. Strong flexible handle. Two standard color combinations: Black textured (**BT**) body with white frame; royal blue textured (**RB**) body with white frame.

Bud No.	Size, In. W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1-14	15-24	25-34
BB-1800	5½ x 11 x 6 7/16	3¾	$68.15	$61.35	$54.50
BB-1801	8 5/16 x 11 x 6 7/16	4	71.05	63.95	56.85
BB-1802	5½ x 11 x 8 5/16	3½	72.40	65.15	57.90
BB-1803	8 5/16 x 11 x 8 5/16	5½	73.55	66.20	58.85
BB-1804	11 1/16 x 11 x 8 5/16	5¼	80.25	72.25	64.20
BB-1805	5½ x 11 x 9 15/16	4¼	74.50	67.05	59.60
BB-1806	8 5/16 x 11 x 9 15/16	5¼	77.55	69.80	62.05
BB-1807	8 5/16 x 15 x 9 15/16	6¼	82.90	74.60	66.30
BB-1808	11 1/16 x 11 x 9 15/16	6	80.65	72.60	64.50
BB-1809	11 1/16 x 15 x 9 15/16	7	85.60	77.05	68.50

ALUMINUM CHASSIS FOR SHOWCASE

Bud No.	Fits	Size, In. W. x D. x H.	Wt., Lbs.	Net Each
BBC-1821	BB-1800-02-05	4 15/16 x 10 x 2	½	$5.80
BBC-1822	BB-1801-03-06	7 1/16 x 10 x 2	¾	6.80
BBC-1823	BB-1804-08	10½ x 10 x 2	1	8.20
BBC-1824	BB-1807	7 1/16 x 14 x 2	1	7.80
BBC-1825	BB-1809	10½ x 14 x 2	1¼	9.50

TR SERIES INSTRUMENT ENCLOSURES



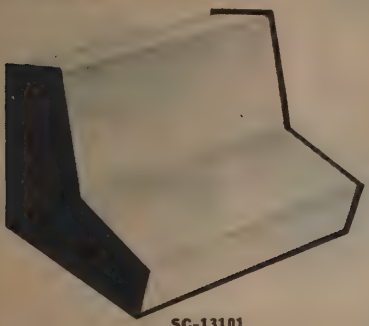
Designed to accommodate an accessory chassis, or ⅛″ thick printed circuit boards. Chassis is reversible, and two configurations are possible with one unit. Top and bottom of instrument enclosure are .050″ aluminum; front panel, .090″ aluminum. Top and bottom can be removed quickly for easy access to the unit's dust-free interior. Carrying handle is also used as tilting bail. **Finish:** Royal blue textured (**RB**) body with white frame. Enclosure includes front panel, rubber feet and carrying handle. Weight: TR-6100, 4½ lbs.; TR-6101, 5½ lbs.; TR-6102, 7 lbs.; TR-6103, 9½ lbs.

Bud No.	Size, In. W.	D.	H.	Panel Space, In.	Net Each, Lots of 1	2-14	15-24
TR-6100	8 5/16	10 3/4	3½	3¼ x 8¾	$102.30	$102.30	$92.05
TR-6101	8 5/16	13¼	5¼	5 x 8¾	109.45	109.45	98.50
TR-6102	11 1/16	13¼	7	6¾ x 10 3/16	125.35	125.35	112.80
TR-6103	12	18¾	8	7¾ x 11¾	151.65	151.65	136.50

CHASSIS FOR TR SERIES

Bud No.	Size, In. Length	Width	Height	Wt., Lbs.	Fits Cabinet	Net Each, Lots of 1	2-14	15-24
TRC-610	10 1/16	7¾	1¼	¾	TR-6100	$11.00	$9.20	$8.30
TRC-611	12 5/8	7¾	1¼	1	TR-6101	11.60	9.70	8.75
TRC-612	12 5/8	10½	1¼	1¼	TR-6102	12.90	9.70	8.75
TRC-613	18 1/16	11 7/16	1¼	1¼	TR-6103	16.40	12.30	11.05

BUD Instrument Cabinets



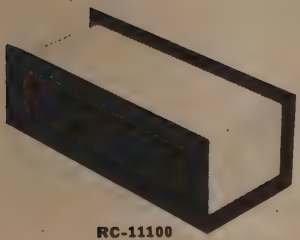
SC-13101



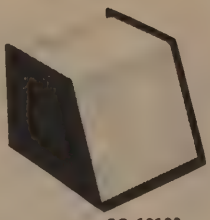
SC-13100



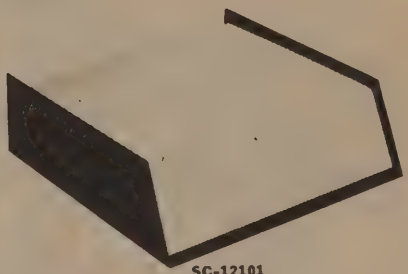
HC-14100



RC-11100



SC-12100



SC-12101

COMPUCAB SERIES

"Now Look" practical and adaptable to many types of instruments. New keyboard look matches today's advanced digital technology concept. All aluminum construction combines beauty, utility and sturdiness. No fasteners are visible on panel area. Shipped assembled. **Material:** Base, ⅛" aluminum; cover and back, 0.057" aluminum; feet, rubber, self-adhesive; 10-32 screws. **Finish:** Base, black textured (**BT**); cover, smooth white. **Assembled** with 6-32 screws. **Rear Panel:** One ⅞" dia. knockout centered, SC-13100; two ⅞" dia. knockouts and four sets of louvers, each set 2" w. x 1¾" h., SC-13101.

Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of		
		2-14	15-24	25-34
SC-13100	10 x 8 1⅛ x 5 1½	$32.25	$29.05	$25.80
SC-13101	14 x 10¾ x 9 6¼	65.90	59.30	52.70

SLOPE SERIES

Sloping front enclosures for excellent visibility of panel mounted components. Modern concept in enclosures embodying clean vertical and horizontal lines. Highly desirable where quick access to the interior is needed. One-piece body is easily detached to provide access to interior components. No exposed fasteners. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum; feet, rubber, self-adhesive. **Finish:** Cover, smooth white; base, black texture (**BT**). **Assembled** with 6-32 screws. **Rear Panel:** Single knockout, SC-12100; two knockouts, SC-12101. **Front Panel:** 20° slope.

Bud No.	Overall Size, Inches W. x D. x H.	Top Depth	Net Each, Lots of		
			1	2-24	25-34
SC-12100	5 x 5 x 4¼	3 1⅛	$17.30	$14.45	$13.00
SC-12101	12 x 10 x 3¼	8 1⅛	36.00	30.05	27.05

LINEAR SERIES

Highly practical enclosures offer solutions to the designer of electronic subsystems and instrumentation. Attractive and functional; one-piece body can be removed to expose the entire interior. No visible fasteners. With self-adhesive rubber feet. **Material:** Base, ⅛" aluminum; cover, 0.057" aluminum. **Finish:** Cover, smooth white; base, black texture (**BT**). **Assembled** with 6-32 screws. **Rear Panel:** Single knockout centered. RC-11100; two knockouts, RC-11101.

Bud No.	Overall Size, Inches W. x D. x H.	Net Each, Lots of		
		1	2-24	25-34
RC-11100	5 x 10 x 3¼	$21.30	$21.30	$19.15
RC-11101	12 x 10 x 8	46.75	46.75	42.10

VALU/LINE CABINETS

Classic styling together with innovative engineering result in a ruggedly built enclosure. Completely assembled unit includes two detachable rack mounting brackets and black rubber feet; adhesive paper covering on panels provides an excellent surface for indicating position when drilling or punching. ⅞" dia. knockout in rear. **Material:** Sides and front panel, ⅛" aluminum; base and cover, 0.057" aluminum; outer brackets, #11 gauge steel; inner brackets, 0.090" aluminum; handles, aluminum extrusion. **Finish:** Sides, white textured (**WH**); rear and top, smooth white. Removable outer brackets for mounting in standard EIA 19" cabinet. Rails available as listed; slides also available.

Bud No.	Size, Inches D. x W. x H.	Handle Cutouts		Net Each, Lots of		
		No.	H., In.	1	2-9	10-14
HC-14100	13 x 12¾ x 3½	1	2¾	$96.80	$96.80	$87.10
HC-14101	13 x 17 x 3½	1	2¾	102.10	102.10	91.90
HC-14102	13 x 12¾ x 5¼	1	3½	105.05	105.05	94.55
HC-14103	13 x 17 x 5¼	1	3½	105.40	105.40	94.85
HC-14104	13 x 17 x 7	1	3½	110.55	110.55	99.50
HC-14105	13 x 17 x 8¾	2	3½	115.90	115.90	104.30
HC-14106	13 x 17 x 10½	2	3½	121.15	121.15	109.05
HC-14107	15 x 17 x 10½	2	3½	126.40	126.40	113.75
HC-14108	15 x 17 x 12¼	2	3½	131.50	131.50	118.35
HC-14109	15 x 17 x 14	3	3½	142.05	142.05	127.85

Bud No.	Description	Net Each, Lots of		
		1	2-9	10-14
BC-14210	Rail, 10" long	$7.60	$6.35	$5.70
BC-14215	Rail, 15" long	9.30	7.75	7.00

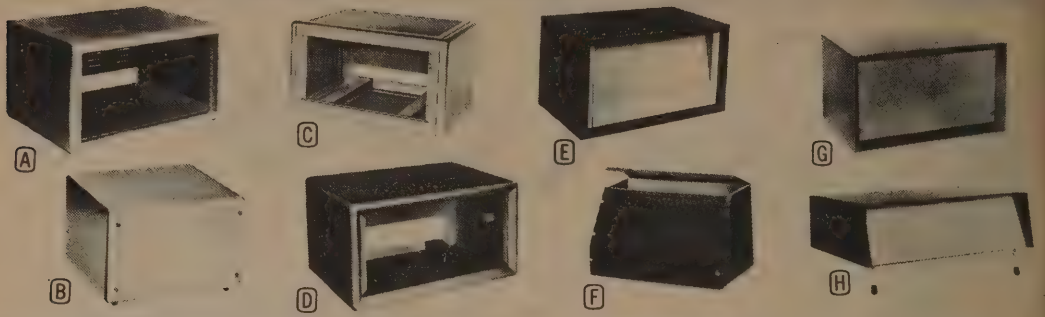
PORTACAB INSTRUMENT CABINETS



Attractive, versatile cabinets desirable as housings for instrumentation requiring highly stylized appearance. Custom, quality look achieved in standard production models. Made entirely of aluminum Flexible recessed handle. Well louvered for adequate ventilation. Louvers point inward, permitting side-to-side placement of cabinets without space loss. Aluminum front panel recessed ½". Welded back has opening. Has four detachable rubber feet. Luster gray (**LG**) finish only.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Bud Chassis	Net Each, Lots of		
				1-24	25-49	50-74
WA1540	6⅛ x 8 x 8	2	AC-402	$25.90	$23.30	$20.70
WA1541	8⅛ x 12 x 9	3½	AC-407	35.65	32.10	28.50
WA1542	10⅛ x 8 x 8	3¾	AC-406	30.30	27.25	24.25
WA1543	11⅛ x 18 x 11	5½	AC-416	44.10	39.70	35.30
WA1544	14⅛ x 18 x 12	8	AC-420	55.80	50.20	44.65

BUD Metal Cabinets



STYLIST SERIES CABINET (FIG. A)

Highly modern cabinet designed to give you the style and construction advantages. Square-corner design, aluminum extrusion framing of front panel lends a contemporary dimension to the appearance of your product. Full width flanges along top and bottom of cabinet add strength. No tilt, no sway when cabinet is loaded. Load bearing capacity is 500 lbs. Constructed of 16 gauge cold rolled steel. Structure is self-supporting, no internal framework. Has 16 gauge steel louvered rear panel, 1¼" high opening for cable accessories. Front and rear openings accept either 19" panels or Stylist Series doors. Self-adhesive rubber feet furnished. Specify suffix for color: **RB**, royal blue; **GT**, gray texture. Example: S-1640**RB**. **Size:** 20 1⅜" w. x 15¼" d., overall.

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-9	Net Each, Lots of: 10-14
S-1640	8 1⅜	7	26¼	$100.60	$ 90.55
S-1641	10⅜	8¼	29	105.40	94.85
S-1642	12⅜	10½	31	110.95	99.85
S-1643	14⅜	12¼	33	115.55	104.00
S-1644	15 1⅜	14	35¼	120.50	108.45
S-1645	17⅜	15¾	37¼	133.70	120.35

FRONT DOORS FOR STYLIST SERIES CABINETS

Overall width, 19". Specify color by suffix, **RB**, royal blue; **GT**, gray textured. Example: SD-540**RB**.

Bud No.	Height, In.	Wt., Lbs.	Fits Cabinet	Net Each, Lots of: 1-9	Net Each, Lots of: 10-14
SD-540	7	4¾	S-1640	$24.80	$22.30
SD-541	8¾	5½	S-1641	26.65	24.00
SD-542	10½	6¼	S-1642	27.30	25.10
SD-543	12¼	7	S-1643	28.65	25.80
SD-544	14	7¾	S-1644	30.55	27.50
SD-545	15¾	8½	S-1645	32.40	29.15

CONTOUR UTILITY CABINETS (FIG. B)

Constructed of 20 gauge steel. Both front and rear panels are removable; the front panel is solid while the rear panel is louvered for proper ventilation. Four rubber feet, attached to base. Body is royal blue textured (**RB**) or gray textured (**GT**) with white textured (**WH**) panels.

Bud No.	Overall Size, In. W. x D. x H.	Net Each, Lots of: 1	Net Each, Lots of: 2-49	Net Each, Lots of: 50-99
CU-463	6¼ x 3¾ x 4¼	$16.80	$14.05	$12.65
CU-465	6¼ x 5¾ x 4¼	19.30	16.10	14.50
CU-585	8¼ x 5¾ x 5¼	20.60	20.60	18.55
CU-587	8¼ x 7¾ x 5¼	22.70	22.70	20.45
CU-7125	12¼ x 5¾ x 7¼	26.30	21.95*	19.75†
CU-7127	12¼ x 7¾ x 7¼	27.80	23.20*	20.90†

*Net Each, Lots of 2-24. †Net Each, Lots of 25-49.

PRESTIGE VERSA-CABINETS (FIG. C)

Balled corner, welded steel framework; sides top and bottom easily attached. Standard 19" panels used to enclose front or top. Has removable channels for shelf or chassis. Opening at back, 1¾" x 17 13⁄16". Cabinets may be attached side-to-side or stacked vertically. Perforated top panels and side handles available. **Finish:** luster gray (**LG**). **Size:** 23⅜" w. x 15¾" d., overall. Weight, 27 to 35 lbs.

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel: Space	Size, Inches: Panel: Rear	Net Each, Lots of: 1-14	Net Each, Lots of: 15-24	Net Each, Lots of: 25-34
PC-1700	8¼	5¼	3½	$115.90	$104.30	$ 92.70
PC-1701	10½	7	5¼	122.60	110.35	98.10
PC-1702	12¼	8¾	7	125.85	113.25	100.70
PC-1703	14	10½	8¾	129.70	116.75	103.75
PC-1704	15¾	12¼	10½	137.45	123.70	109.95
PC-1710	Perforated steel top plate, 12¼ x 19			14.20	11.85	10.65

STANDARD PRESTIGE CABINETS (FIG. D)

Has two supporting rails, laterally movable to fit any chassis width, and shielded handle slots. Finger holes in cover for easy lifting. Of 16 gauge steel. Takes 19" panels. With embossed feet. **Size:** 21⅝" w. x 14¼" d. overall. Luster gray finish (**LG**).

Bud No.	Size, Inches: Overall Height	Size, Inches: Panel Space	Wt., Lbs.	Net Each, Lots of: 1-14	Net Each, Lots of: 15-24	Net Each, Lots of: 25-34
C-1440	9⅜	7	25	$109.95	$ 98.95	$ 87.95
C-1441	11⅜	8¼	26	115.75	104.20	92.60
C-1442	13⅜	10½	28½	120.75	108.70	96.60
C-1550*	9⅜	7	23½	118.75	106.90	95.00
C-1551*	11⅜	8¼	25	123.65	111.30	98.90
C-1552*	13⅜	10½	27½	130.70	117.65	104.55

*With perforated cover; others solid.

FUTURA CABINETS (FIG. E)

Handsome housing of 20 and 18 gauge steel. Four rubber feet. Numbers MD-1960 thru MD-1962 have vertical front panel; all others (Fig. E) have inclined front panel rising 2" vertically, then inclining 15°. Specify color by suffix: **RB**, royal blue textured body with white textured (**WH**) panels.

Bud No.	Overall Size, In. W. x H. x D.	Net Each, Lots of: 1-24	Net Each, Lots of: 25-34	Net Each, Lots of: 35-49
MD-1960	13 x 8 x 7	$26.65	$24.00	$21.30
MD-1961	14 x 9 x 8	28.80	25.90	23.05
MD-1962	16 x 9 x 8	29.55	26.60	23.65
MD-1963	13 x 8 x 7	31.40	28.25	25.10
MD-1964	14 x 9 x 8	33.55	30.20	26.85
MD-1965	16 x 9 x 8	35.90	32.30	28.70

SLOPING PANEL CABINETS (FIG. F)

Hinged top for easy access; front panel also removable. Available in luster gray finish (**LG**).

Bud No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each, Lots of: 1	Net Each, Lots of: 2-24	Net Each, Lots of: 25-49
C-1584	6½ x 7 5⁄16 x 7 5⁄16	2¾	$14.40	$12.35	$11.10
C-1587	8 x 8 5⁄16 x 8	4	19.50	16.30	14.65
C-1585	6½ x 9 5⁄16 x 7 5⁄16	2½	16.30	13.60	12.25
C-1588	8 x 10 5⁄16 x 8	4½	21.50	17.95	16.15
C-1586	6½ x 11 5⁄16 x 7 5⁄16	3¼	18.60	15.55	14.00
C-1894	8 x 14 5⁄16 x 8	6	23.60	19.70	17.75
C-1892	8 x 13 5⁄16 x 8½	5½	28.50	23.80	21.40
C-1896	9 x 18 5⁄16 x 8 5⁄16	9¼	36.10	30.15	27.15
C-1893	10 x 18 5⁄16 x 10½	12½	36.90	30.80	27.70

SHADOW CABINETS (FIG. G)

Front panel recessed 1". Front edge of body is beveled. Body of 18 gauge and panels of 16 gauge steel. Four rubber feet. Available in luster gray finish only (**LG**).

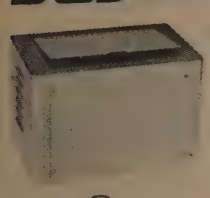
Bud No.	Overall Size, In. W. x H. x D.	Uses Bud Chassis: AC-	Uses Bud Chassis: AC-	Net Each, Lots of: 1	Net Each, Lots of: 2-24	Net Each, Lots of: 25-49
SB-2140	14¼ x 8 x 10	424	1419	$32.30	$32.30	$29.05
SB-2141	13¼ x 7½ x 9	407	408	28.95	28.95	26.05
SB-2142	17 x 9½ x 11	411	1415	39.10	39.10	35.20
SB-2143	15½ x 6 x 9	409	408	28.55	28.55	25.70

"TILT-A-VIEW" CABINETS (FIG. H)

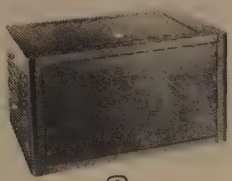
Designed to present variable viewing angles. Two-piece, 18-ga. steel. Fast, easy access to interior. Two 2" high legs, detachable for changed viewing angle, have rubber feet. Can be mounted on desk, cabinet or wall. Hooded top. No screws in panels. **Finish:** Gray textured cover (**GT**) with white textured body (**WH**).

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of: 1	Net Each, Lots of: 2-24	Net Each, Lots of: 25-49
TV-2155	15 x 10 x 4½	$27.70	$23.15	$20.85
TV-2156	16 x 12 x 6½	37.60	31.40	28.25
TV-2157	17 x 14 x 8½	40.00	33.25	35.35

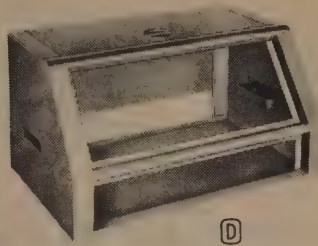
BUD Cabinets


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Panel not included


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STREAMLINED CABINETS (FIG. A)

Ideal for housing devices not requiring excessive depth. Recessed, hinged cover with convenient finger lift for access. Panels fit flush with embossed, rounded corner fronts. Back opening 3½" h. provides for cables or rear controls; louvered sides provide ample ventilation. **Size:** 8¼" d. x 8" h. overall. Luster gray finish **(LG)** only.

Bud No.	Size, Inches Overall Width	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-24	Net Each, Lots of 25-49
CD-1480	10½	8 x 8	6¼	$27.00	$22.55	$20.30
CD-1481	12½	8 x 10	6¾	27.20	22.70	20.45
CD-1482	14½	8 x 12	7½	29.00	24.20	21.80
CD-1483	16½	8 x 14	7¾	31.40	26.20	23.60
CD-1484	18½	8 x 16	9¼	33.10	27.65	24.90
CD-1485*	20⅝	12 x 18	17½	54.20	54.20	48.80

*Depth is 12".

METAL UTILITY CABINETS (FIG. B)

Highly useful housing for all types of electronic equipment. Both font and back panels are removable for easy accessibility.

STEEL CABINETS

Finishes: **"CU"** prefix—steel with luster gray **(LG)**. **"AU"** prefix —Aluminum alloy in natural or luster gray **(LG)**.

Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-49	Net Each, Lots of 50-99
CU-883	3 x 4 x 4	¾	$ 5.50	$ 4.60	$ 4.15
CU-728	3 x 5 x 4	1	6.00	5.00	4.50
CU-729	4 x 5 x 6	1¾	7.40	6.20	5.60
CC-1098	6 x 6 x 6	2¼	11.50	9.60	8.65
CC-1099	5 x 6 x 9	3	12.60	10.50	9.45
CU-879	7 x 8 x 10	3¼	17.60	14.70	13.25
CU-1124	6 x 7 x 12	5	16.20	13.55	12.20
CU-880	8 x 10 x 10	6¼	18.70	15.60	14.05
CU-881	8 x 11 x 12	8½	22.00	18.35	16.50
CU-882	7 x 9 x 15	8¼	25.30	21.15	19.05

NATURAL FINISH ALUMINUM CABINETS*

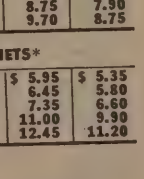
Bud No.	Size, Inches D. x W. x H.	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-49	Net Each, Lots of 50-99
AU-1083	2 x 4 x 4	¼	$ 5.80	$4.85	$4.35
AU-1028	3 x 5 x 4	½	6.00	5.00	4.50
AU-1029	4 x 5 x 6	¾	6.80	5.70	5.15
AU-1039	6 x 6 x 6	1	10.50	8.75	7.90
AU-1040	5 x 6 x 9	1½	11.60	9.70	8.75

LUSTER GRAY ALUMINUM CABINETS*

AU-1083LG	2 x 4 x 4	¼	$ 7.10	$ 5.95	$ 5.35
AU-1028LG	3 x 5 x 4	½	7.70	6.45	5.80
AU-1029LG	4 x 5 x 6	¾	8.80	7.35	6.60
AU-1039LG	6 x 6 x 6	1	13.20	11.00	9.90
AU-1040LG	5 x 6 x 9	1½	14.90	12.45	11.20

*Aluminum alloy 5005 H-14.

UNIVERSAL SLOPING PANEL CABINETS



Fully enclosed and shielded housing with one-piece detachable back and sides fastened to body with four self-tapping screws. Components may be mounted on back, bottom, sides or front. Luster gray finish **(LG)** only.

ALUMINUM MODELS

Aluminum alloy 5005 H-14.

Bud No.	Size, Inches W. x D. x H.	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-99	Net Each, Lots of 100-199
AC-1610	4 x 4 x 4⅜	⅜	$7.40	$6.20	$5.60
AC-1611	5 x 4 x 4⅜	½	7.70	6.45	5.80
AC-1612	6 x 4 x 4⅜	⅝	7.90	6.60	5.95
AC-1613	7 x 4 x 4⅜	⅝	8.70	7.25	6.55

DELUXE CABINET RACKS (FIG. C)

Heavy-gauge steel racks with recessed hinged door on top and black thermoplastic slide latch; rounded corners. The five large sizes have hinged rear doors; others, welded rear panels. Louvered sides Embossed metal feet. Available in luster gray finish **(LG)**. **Size:** 14¾" x 22" w. Fits 19" panels.

Bud No.	Size, Inches Overall Height	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	Net Each, Lots of 10-14	Net Each, Lots of 15-19
CR-1726	8 1/16	7	28	$ 67.65	$ 60.90	$ 54.10
CR-1741	10⅜	8¾	30	71.65	64.50	57.30
CR-1740	12⅝	10½	34	80.50	72.45	64.40
CR-1742	14 1/16	12¼	37	86.50	77.85	69.20
CR-1739	15 1/16	14	40	112.40	101.15	89.90
CR-1743*	19⅝	17½	47	115.15	103.65	92.10
CR-1727*	22 1/16	21	51	123.50	111.15	98.80
CR-1744*	28⅛	26¼	58	127.10	114.40	101.70
CR-1728*	33⅝	31½	68	135.50	121.95	108.40
CR-1745*	36 1/16	35	78	142.05	127.85	113.65

*These sizes have both top and rear doors.

HEAVY DUTY CABINET RACKS

Similar to above units with Add-A-Cab feature (similar to Add-A-Rack) for continuously expanding systems. Panel mounting rails are integral part of the sides. Removable rear door. Louvered sides and 2½" x 17⅛" opening in the bottom of the back assure adequate ventilation. Made of 16 ga. steel. **Size:** 17⅛" d. x 22" w. Luster gray finish **(LG)**.

Bud No.	Size, Inches Overall Height	Size, Inches Panel Space	Wt., Lbs.	Net Each, Lots of 1-9	Net Each, Lots of 10-14	Net Each, Lots of 15-19
CR-1736	24½	19¼	47	$116.00	$104.40	$ 92.80
CR-1737	31½	26¼	56	124.50	112.05	99.60
CR-1738	40¼	35	67	147.80	133.00	118.25

PRESTIGE SLOPING PANEL CABINETS (FIG. D)

Ventilated top opens completely. Removable panel trim bar permits installation or removal of panels with chassis attached. Top panel is swept back for easy viewing. Takes standard 19" panels. Shielded lifting handles. Rear opening 2½" x 18" for controls, etc.; panel recess 1½"; bottom panel 3½" high. **Size:** 22" w. x 9¼" top depth. Luster gray finish **(LG)**. Weight, 25, 27 and 30 lbs.

Bud No.	Size, In. H. x D.	Slope H., In.	Net Each, Lots of 1-14	Net Each, Lots of 15-24	Net Each, Lots of 25-34
C-1555	11⅞ x 14⅜	7	$104.20	$ 93.80	$83.35
C-1556	13¼ x 15⅞	8¾	110.95	99.85	88.75
C-1557	14½ x 16⅛	10½	118.90	107.00	95.10

UNIVERSAL METER CASES



Center hole punched for 2" meters, plus easily removed knock-out ring to provide fit for 3" meters. Single piece detachable back and sides fastened to case with self-tapping screws for easy installation and servicing. Two 3⅛" knock-out holes in top provide for installation of feed-through insulators, switches, volume controls, etc. Luster gray finish **(LG)**. **Size:** 4⅝" h. x 4" w. x 1⅛" d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-49	Net Each, Lots of 50-99
CM-1935	Steel	¾	$6.00	$5.00	$4.50
CMA-1936	Aluminum	¼	7.20	6.00	5.40

WIDE UNIVERSAL METER CASE

Same as above, except extra wide to permit installation of small components along with a meter or accommodate a 4" meter. Made of 5005 H-14 aluminum. **Size:** 4⅝" h. x 6" w. x 4⅛" d.

Bud No.	Construction	Wt., Lbs.	Net Each, Lots of 1	Net Each, Lots of 2-49	Net Each, Lots of 50-99
CMA-1930	Aluminum	½	$11.40	$9.50	$8.35

BUD Boxes and Cases

MINIBOXES,



Design of this box permits installation of more components than would be possible in the conventionally designed boxes the same size. Two-piece construction. **Either snap-lock or screw type.** The flange type construction assures adequate shielding. Made from heavy .040 ga. aluminum. Available in natural aluminum finish and light gray finish.

GRAY ENAMEL MINIBOXES

Bud No.	Size, Inches L. x H. x W.	Wt., Lbs.	Net Each, Lots of 1	2-99	100-199
CU-2100B	2¾ x 2⅛ x 1⅜	¼	$ 2.80	$ 2.35	$ 2.10
CU-2101B	3¼ x 2⅛ x 1⅜	¼	2.80	2.35	2.10
CU-2102B	4 x 2⅛ x 1⅜	¼	3.10	2.60	2.35
CU-2103B	4 x 2¼ x 2¼	¼	3.20	2.65	2.40
CU-2104B	5 x 2¼ x 2¼	¼	3.70	3.10	2.80
CU-2105B	5 x 4 x 3	½	4.60	3.85	3.45
CU-2106B	5¼ x 3 x 2⅛	¼	5.30	4.45	4.00
CU-2107B	6 x 5 x 4	¾	5.90	4.95	4.45
CU-2108B*	7 x 5 x 3	¾	8.20	6.85	6.15
CU-2109B*	8 x 6 x 3½	1	12.40	10.35	9.30
CU-2110B*	10 x 6 x 3½	1¼	13.20	11.00	9.90
CU-2111B*	12 x 7 x 4	1⅝	17.40	14.55	13.10
CU-2112B*	17 x 5 x 4	2¼	18.40	15.35	13.80
CU-2113B*	10 x 2 x 1⅝	½	6.10	5.10	4.60
CU-2114B*	12 x 2½ x 2¼	¾	9.00	7.50	6.75
CU-2115B	4 x 2 x 2¼	¼	4.40	3.65	3.30
CU-2116B	4¼ x 2¼ x 1½	¼	4.40	3.65	3.30
CU-2117B	3¼ x 2⅛ x 1⅜	¼	4.40	3.65	3.30

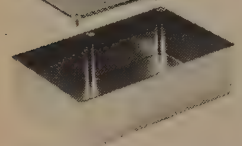
*.050" aluminum.

NATURAL FINISH MINIBOXES

CU-3000A	2¾ x 2⅛ x 1⅜	¼	$ 2.00	$ 1.65	$ 1.50
CU-3001A	3¼ x 2⅛ x 1⅜	¼	2.00	1.65	1.50
CU-3002A	4 x 2⅛ x 1⅜	¼	2.20	1.85	1.65
CU-3003A	4 x 2¼ x 2¼	¼	2.60	2.15	1.95
CU-3004A	5 x 2¼ x 2¼	¼	2.80	2.35	2.10
CU-3005A	5 x 4 x 3	½	4.00	3.35	3.00
CU-3006A	5¼ x 3 x 2⅛	¼	3.30	2.75	2.50
CU-3007A	6 x 5 x 4	¾	5.50	4.60	4.15
CU-3008A*	7 x 5 x 3	¾	5.90	4.95	4.45
CU-3009A*	8 x 6 x 3½	1	8.20	6.85	6.15
CU-3010A*	10 x 6 x 3½	1¼	10.40	8.70	7.85
CU-3011A*	12 x 7 x 4	1⅝	13.10	10.95	9.85
CU-3012A*	17 x 5 x 4	2¼	13.90	11.60	10.45
CU-3013A*	10 x 2 x 1⅝	½	4.60	3.85	3.45
CU-3014A*	12 x 2½ x 2¼	¾	6.50	5.45	4.90
CU-3015A	4 x 2 x 2¾	¼	3.20	2.65	2.40
CU-3016A	4¼ x 2¼ x 1½	¼	3.20	2.65	2.40
CU-3017A	3¼ x 2⅛ x 1⅜	¼	3.20	2.65	2.40

*.050" aluminum.

DIECAST BOXES

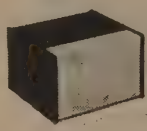


The low cost, cast aluminum enclosure for almost anything. Close fitting, flanged lids fasten to bosses in the body by means of screws. This, plus the thickness of the aluminum alloy (LM-380), offers excellent screening properties. Boxes are light weight and easily machined. Cover and body of CU-247 and CU-347 are fastened together with 6 screws; the others use 4 screws. Hardware is furnished. Height given includes cover.

Bud No.	Size, Inches W. x D. x H.	Net Each, Lots of 1	2-99	100-199
CU-123	1½ x 3⅝ x 1 7/32	$ 3.90	$ 3.25	$2.95
CU-124	2⅜ x 4⅜ x 1 7/32	4.40	3.65	3.30
CU-234	2 11/16 x 4 11/16 x 2 7/32	7.30	6.10	5.50
CU-247	4 45/64 x 7 25/64 x 2 7/32	11.80	9.85	8.85
CU-347	4 45/64 x 7 25/64 x 3 7/32	12.20	10.20	9.20

CONTEMPO ENCLOSURES





Clean contemporary design—versatile, highly functional, .062" aluminum top and body. Molded .160" cycolac plastic end panels. Twenty-two sizes with either wood grain and eggshell or black pebble and smooth gray finish. Top slides into grooves in end panels and is secured with two screws. The letter **B** in the Bud Model No. designates black end panels with gray body; the letter **W** designates wood grain finish on end panels and body with eggshell body, front and rear panels.

Bud No.	Inside Dimen., Inches* H.	x	W.	x	D.	Net Each, Lots of 1	2-49	50-99
JB-1650	2⅛		3⅞		5⅝	$13.70	$11.45	$10.30
JB-1651	2⅛		4 15/16		5⅝	14.40	12.00	10.80
JB-1652	2⅛		5 15/16		5⅝	13.20	12.70	11.45
JB-1653	2⅛		6 15/16		5⅝	16.30	13.60	12.25
JB-1654	2⅛		8		5⅝	18.30	15.30	13.75
JB-1655	2⅛		10⅛		5⅝	23.20	19.35	17.40
JW-3200	2⅛		3⅞		5⅝	13.90	11.60	10.45
JW-3201	2⅛		4 15/16		5⅝	14.60	12.20	11.00
JW-3202	2⅛		5 15/16		5⅝	15.50	12.95	11.65
JW-3203	2⅛		6 15/16		5⅝	17.50	14.60	13.15
JW-3204	2⅛		8		5⅝	19.90	16.45	14.80
JW-3205	2⅛		10⅛		5⅝	25.50	21.30	19.15

*Add 5/16" to H., ¼" to W. and 5/16" to D. to obtain outside dimension.

Bud No.	Inside Dimen., Inches* H.	x	W.	x	D.	Net Each, Lots of 1	2-49	50-99
LB-1660	3		3⅞		6¾	$14.60	$12.20	$11.00
LB-1661	3		4 15/16		6¾	15.20	12.70	11.45
LB-1662	3		5 15/16		6¾	16.80	14.05	12.65
LB-1663	3		6 15/16		6¾	19.50	16.30	14.65
LB-1664	3		8		6¾	21.80	18.20	16.40
LB-1665	3		10⅛		6¾	27.20	22.70	20.45
LW-3210	3		3⅞		6¾	14.60	12.20	11.00
LW-3211	3		4 15/16		6¾	16.20	13.55	12.20
LW-3212	3		5 15/16		6¾	18.60	15.55	14.00
LW-3213	3		6 15/16		6¾	21.00	17.55	15.80
LW-3214	3		8		6¾	24.00	20.05	18.05
LW-3215	3		10⅛		6¾	28.70	23.95	21.55

*Add ¼" to H., ¼" to W. and ¼" to D. to obtain outside dimensions.

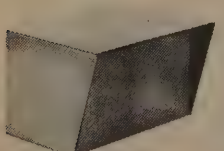
Bud No.	Inside Dimen., Inches* H.	x	W.	x	D.	Net Each, Lots of 1	2-49	50-99
MB-1670	4 3/16		4 15/16		6 5/16	$15.50	$12.95	$11.65
MB-1671	4 3/16		5 15/16		6 5/16	16.70	13.95	12.55
MB-1672	4 3/16		6 15/16		6 5/16	19.30	16.10	14.50
MB-1673	4 3/16		8		6 5/16	21.80	18.20	16.40
MB-1674	4 3/16		10⅛		6 5/16	27.40	22.90	20.60
MB-1675	4 3/16		12⅛		6 5/16	33.90	28.30	25.45
MW-3220	4 3/16		4 15/16		6 5/16	16.10	13.45	12.10
MW-3221	4 3/16		5 15/16		6 5/16	18.40	15.35	13.80
MW-3222	4 3/16		6 15/16		6 5/16	21.00	17.55	15.80
MW-3223	4 3/16		8		6 5/16	23.90	19.95	17.95
MW-3224	4 3/16		10⅛		6 5/16	28.70	23.95	21.55
MW-3225	4 3/16		12⅛		6 5/16	34.20	28.55	25.70

*Add ¼" to H., ¼" to W. and ¼" to D. to obtain outside dimensions.

Bud No.	Inside Dimen., Inches* H.	x	W.	x	D.	Net Each, Lots of 1	2-24	25-34
DB-1680	4 3/16		8		10 3/32	$29.65	$29.65	$26.70
DB-1681	4 3/16		10		10 3/32	31.55	31.55	28.40
DB-1682	4 3/16		12		10 3/32	34.55	34.55	31.10
DB-1683	4 3/16		14		10 3/32	37.30	37.30	33.55
DW-3230	4 3/16		8		10 3/32	37.00	33.00	29.70
DW-3231	4 3/16		10		10 3/32	39.50	36.05	32.45
DW-3232	4 3/16		12		19 3/32	42.50	40.00	36.00
DW-3233	4 3/16		14		10 3/32	46.20	46.20	41.60

*Add ¼" to H., 1 1/32" to W. and 7/32" to D. to obtain outside dimensions.

COWL-TYPE MINIBOXES

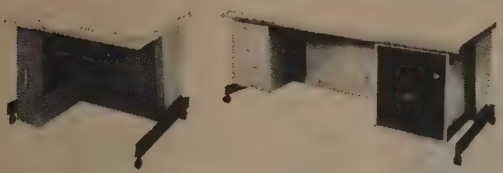


The cowl-type Minibox has a projecting cover to reduce glare on the panel from overhead lighting. It also provides protection for controls and dials. Cover has two box braces to which bottom is attached with sheet metal screws. When assembled, this type of construction results in a sturdy, rigid housing. Constructed of .040" aluminum and available in natural or luster gray finish (**LG**).

Bud No.	Overall Size, In. H. x W. x D.	Net Each, Lots of 1	2-49	50-99
SC-2130*	6 x 10 x 7	$22.10	$18.45	$16.60
SC-2131*	7 x 12 x 8	24.30	20.30	18.25
SC-2132*	3 x 8 x 5	12.70	10.60	9.55
SC-2133*	5 x 5 x 5	13.10	10.95	9.85
SC-3030†	6 x 10 x 7	16.20	13.55	12.20
SC-3031†	7 x 12 x 8	17.40	14.55	13.10
SC-3032†	3 x 8 x 5	9.20	7.70	6.95
SC-3033†	5 x 5 x 5	9.70	8.10	7.30

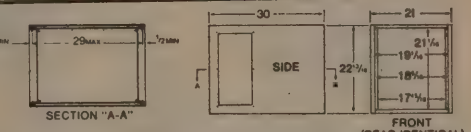
*Painted luster gray (**LG**). †Natural aluminum finish.

BUD COMMANDER MODULAR WORK STATIONS

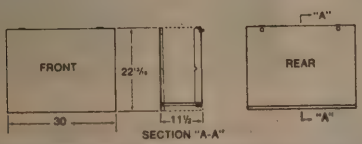


Contemporary styling, ruggedly built work stations to provide maximum efficiency and flexibility. Nine standard one-, two- or three-bay units—all with rear compartment—three-drawer pedestals or shelves to house electronic equipment or for storage. Frame and pylons are 14 gauge steel; struts are 11 gauge steel; top is particle board with wood grain finish. Convenient cable access and excellent cable management. Shipped assembled. **Finish:** Royal blue textured (**RB**) or gray textured (**GT**).

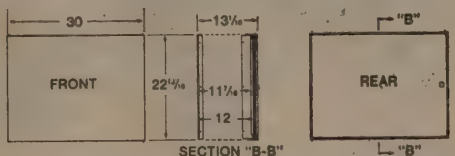
Bud No.	No. Bays	Type Rear Unit	No. Cabinets
CD-16000	1	St. 1 bay	...
CD-16001	1	Deluxe 1 bay	...
CD-16002	2	St. 1 bay	1
CD-16003	2	Deluxe 1 bay	1
CD-16004	2	Deluxe 2 bay	...
CD-16005	3	St. 1 bay	2
CD-16006	3	Deluxe 1 bay	2
CD-16007	3	Deluxe 2 bay	1
CD-16008	3	Deluxe 3 bay	...



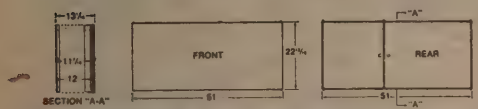
CABINET—Can be mounted on right or left side of two- or three-bay desk framework. Front and rear adjustable mounting rails tapped 10-32 on E.I.A. spacing. Solid bottom panel supplied. Perforated bottom panel and doors optional. 16 gauge steel.



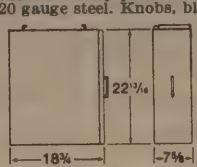
ONE-BAY DELUXE REAR UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear door affixed with pin hinges along one side; locking bar and magnetic latch on opposite side. Optional 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Door, 18 gauge steel. Door mounting strips, 11 gauge steel.



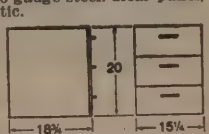
STANDARD REAR UNIT—For storage and/or cable routing. Rear quick-disconnect panel secured by two ¼-turn fasteners at top and two open slots at bottom. Optional 30″ shelf. Modesty panel and shelf, 16 gauge steel. Rear panel, 20 gauge steel. Knobs, black plastic.



TWO-BAY DELUXE REAR UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear doors affixed with pin hinges along one side; locking bar and magnetic latch on opposite side. Optional 21″ and 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Doors, 18 gauge steel. Door mounting strips, 11 gauge steel.



VERTICAL DRAWER—Mounts on either side of desk frame or next to a cabinet. Two ball-bearing telescoping slides. Pencil tray at top; divider panel at bottom, 20 gauge steel.



THREE-DRAWER PEDESTAL—Mounts on either side of desk frame. Telescoping slides with ball bearings. One movable divider per drawer, 20 gauge steel.



CD-16005	Vertical drawer
CD-16010	3 drawer pedestal
CD-16011	Mounting rail, pair
CD-16012	30″ shelf
CD-16013	21″ shelf
CD-16014	Divider panel
CD-16015	21″ door
CD-16016	Perforated bottom panel

USE BUD RC-7775 CASTERS OR RL-7766 LEVELERS

THREE-BAY DELUXE UNIT—For storage, cable routing and/or mounting 19″ x 21″ equipment. Reversible rear doors affixed hinges along one side; locking bar and magnetic latch on opposite side. Optional 21″ x 30″ shelves, mounting rails and divider panels available. Modesty panel and rear frame, 16 gauge steel. Doors, 18 gauge steel. Door mounting strips, 11 gauge steel.

Bud No.	Net Each, Lots of 1-2	3-4	5-7	8-10
CD-16000	$ 850.60	$ 765.55	$ 680.50	$ 637.95
CD-16001	841.10	793.00	704.90	660.85
CD-16002	1081.45	1073.30	1065.15	1061.10
CD-16003	1242.25	1218.05	1193.80	1181.70
CD-16004	1202.80	1182.50	1162.25	1152.10
CD-16005	1375.75	1338.20	1300.60	1281.80
CD-16006	1497.60	1447.85	1398.10	1373.20
CD-16007	1610.55	1449.50	1288.45	1207.90
CD-16008	1543.45	1389.10	1234.75	1157.60
CD-16009	135.40	121.85	108.30	101.55
CD-16010	239.80	215.80	191.85	179.85
CD-16011	19.20*	12.95†	11.50†	10.80†
CD-16012	‡	19.40	17.25	16.15
CD-16013	‡	14.80	13.15	12.35
CD-16014	^	15.40	13.70	12.85
CD-16015	84.60	76.15	67.70	63.45
CD-16016	††	18.25	16.20	15.20

*Price per one pair; two pairs, **$14.40**, per pair. †Price per pair. ‡**$28.70** each; **$21.55** each per two. ‡**$21.90** each; **$16.45** each per two. ^**$22.80** each; **$17.10** each per two. ††**$27.00** each, **$20.25** each per two.



New generation of high quality enclosures... available from stock

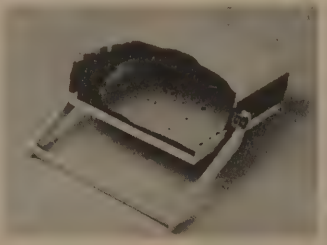
PacTec enclosures can save anywhere from 1/3 to 1/2 the cost of custom metal or molded enclosures.

- **Attractive appearance**
- **Durable construction**
- **Over 50 models • Low cost**
- **Inexpensive front panels**
- **Standard features and options**
- **Prototyping kits**
- **Off-the-shelf availability**

Now you can package your product in an attractive, custom enclosure built from standard, stocked parts and accessories. PacTec enclosures are constructed of durable, impact-resistant ABS material, ensuring long life and attractive appearance.

PacTec enclosures are easy to use, easy to set-up, easy to assemble

The unique system of mounting bosses, rails, and card guides makes PacTec enclosures very versatile. You select the size enclosure you need, and choose the hardware and options to customize your enclosure. You can even order a prototyping kit that contains everything necessary to build an enclosure for your application.



Standard features and options include:

(not all available in every case size)

Choice of standard colors (black, tan, blue, grey); optional special colors and combinations; custom trim; special finish; handle; tilt stand; mounting rails; card guides; swivel mount; mounting bracket; shoulder strap; strap handle, wrist strap; belt clip; extended rear panels; sloped top or bottom covers; EMI/RFI shielding; UL listed materials; cord wrap; custom front panels.

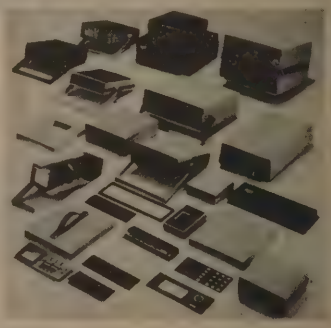
Inexpensive, custom front panels

Create an attractive, custom appearance with a three-dimensional front panel which can incorporate raised copy and production advantages such as posts, clips, slots, etc.



Wide range of standard features and low-cost options

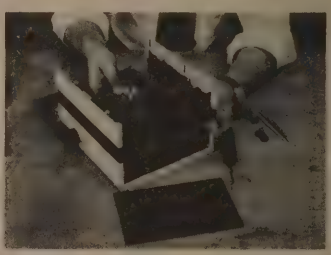
You can customize your enclosure with unlimited variations.



Prototyping kits available

You can build an attractive enclosure for your prototype model—and at the same time design your production unit.

See how easy-to-use the PacTec system is—order an inexpensive kit from the chart on the next page.



Prototyping Kits and Production Units

Series C



Series C

Prototype kit C-23K contains everything necessary to build the following models:

Ordering Code	Weight lb	kg		Height in	mm	Width in	mm	Depth in	mm
C-200			outside	2.44	61.9	8.50	215.9	9.25	235.0
	1.14	.52	inside*	1.68	42.7	6.85	174.0	8.00	203.2
C-225			outside	2.69	68.3	8.50	215.9	9.25	235.0
	1.14	.52	inside*	1.93	49.0	6.85	174.0	8.00	203.2
C-250			outside	2.94	74.6	8.50	215.9	9.25	235.0
	1.16	.53	inside*	2.18	55.4	6.85	174.0	8.00	203.2
C-275			outside	3.19	81.0	8.50	215.9	9.25	235.0
	1.16	.53	inside*	2.43	61.7	6.85	174.0	8.00	203.2
C-300			outside	3.44	87.3	8.50	215.9	9.25	235.0
	1.17	.53	inside*	2.68	68.1	6.85	174.0	8.00	203.2
C-325			outside	3.69	93.7	8.50	215.9	9.25	235.0
	1.17	.53	inside*	2.93	74.4	6.85	174.0	8.00	203.2

Series CB (tilt stand)

Prototype kit CB-23K contains everything necessary to build the following models:

CB-200			outside	2.44	61.9	8.50	215.9	9.25	235.0
	1.24	.56	inside*	1.68	42.7	6.85	174.0	8.00	203.2
CB-225			outside	2.69	68.3	8.50	215.9	9.25	235.0
	1.24	.56	inside*	1.93	49.0	6.85	174.0	8.00	203.2
CB-250			outside	2.94	74.6	8.50	215.9	9.25	235.0
	1.25	.57	inside*	2.18	55.4	6.85	174.0	8.00	203.2
CB-275			outside	3.19	81.0	8.50	215.9	9.25	235.0
	1.25	.57	inside*	2.43	61.7	6.85	174.0	8.00	203.2
CB-300			outside	3.44	87.3	8.50	215.9	9.25	235.0
	1.27	.58	inside*	2.68	68.1	6.85	174.0	8.00	203.2
CB-325			outside	3.69	93.7	8.50	215.9	9.25	235.0
	1.27	.58	inside*	2.93	74.4	6.85	174.0	8.00	203.2

Series CH (handle)

Prototype kit CH-23 contains everything necessary to build the following models:

CH-200			outside	2.44	61.9	8.50	215.9	9.25	235.0
	1.36	.62	inside*	1.68	42.7	6.85	174.0	8.00	203.2
CH-225			outside	2.69	68.3	8.50	215.9	9.25	235.(
	1.36	.62	inside*	1.93	49.0	6.85	174.0	8.00	203.2
CH-250			outside	2.94	74.6	8.50	215.9	9.25	235.0
	1.37	.62	inside*	2.18	55.4	6.85	174.0	8.00	203.2
CH-275			outside	3.19	81.0	8.50	215.9	9.25	235.0
	1.37	.62	inside*	2.43	61.7	6.85	174.0	8.00	203.2
CH-300			outside	3.44	87.3	8.50	215.9	9.25	235.0
	1.39	.63	inside*	2.68	68.1	6.85	174.0	8.00	203.2
CH-325			outside	3.69	93.7	8.50	215.9	9.25	235.0
	1.39	.63	inside*	2.93	74.4	6.85	174.0	8.00	203.2

Series CS (extended height)
Series CBS (extended height & tilt stand)

For prototype kits, add the suffix "K" to the model numbers listed below:

CS-400			outside	4.44	119.7	8.50	215.9	9.25	235.0
	1.53	.69	inside*	3.68	93.5	6.85	174.0	8.00	203.2
CS-500			outside	5.44	138.1	8.50	215.9	9.25	235.0
	1.55	.71	inside*	4.68	118.9	6.85	174.0	8.00	203.2
CS-600			outside	6.44	163.5	8.50	215.9	9.25	235.0
	1.65	.75	inside*	5.68	144.3	6.85	174.0	8.00	203.2

*Minimum inside usable dimensions

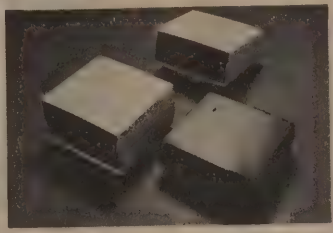
Ordering Code	Weight lb	kg		Height in	mm	Width in	mm	Depth in	mm
CBS-400			outside	4.44	112.7	8.50	215.9	9.25	235.0
	1.63	.74	inside*	3.68	93.5	6.85	174.0	8.00	203.2
CBS-500			outside	5.44	138.1	8.50	215.9	9.25	235.0
	1.57	.71	inside*	4.68	118.9	6.85	174.0	8.00	203.2
CBS-600			outside	6.44	163.5	8.50	215.9	9.25	235.0
	1.75	.79	inside*	5.68	144.3	6.85	174.0	8.00	203.2

Series CHS (extended height & handle)

For prototype kits, add the suffix "K" to the model numbers listed below:

CHS-400			outside	4.44	112.7	8.50	215.9	9.25	235.0
	1.75	.79	inside*	3.68	93.5	6.85	174.0	8.00	203.2
CHS-500			outside	5.44	138.1	8.50	215.9	9.25	235.0
	1.77	.80	inside*	4.68	118.9	6.85	174.0	8.00	203.2
CHS-600			outside	6.44	163.5	8.50	215.9	9.25	235.0
	1.87	.81	inside*	5.68	144.3	6.85	174.0	8.0	203.2

Series CL



Series CL

Prototype kit CL-45K contains everything necessary to build the following models:

CL-400			outside	4.51	114.6	12.50	317.5	11.63	295.3
	2.32	1.05	inside*	3.50	89.0	10.85	275.6	10.40	264.2
CL-425			outside	4.76	120.9	12.50	317.5	11.63	295.3
	2.32	1.05	inside*	3.75	95.3	10.85	275.6	10.40	264.2
CL-450			outside	5.01	127.3	12.50	317.5	11.63	295.3
	2.34	1.06	inside*	4.00	102.0	10.85	275.6	10.40	264.2
CL-475			outside	5.26	133.6	12.50	317.5	11.63	295.3
	2.34	1.06	inside*	4.25	108.0	10.85	275.6	10.40	264.2
CL-500			outside	5.51	140.0	12.50	317.5	11.63	295.3
	2.35	1.07	inside*	4.50	114.3	10.85	275.6	10.40	264.2
CL-525			outside	5.76	146.3	12.50	317.5	11.63	295.3
	2.35	1.07	inside*	4.75	120.7	10.85	275.6	10.40	264.2

Series CLB (tilt stand)

Prototype kit CLB-45K contains everything neccessary to build the following models:

CLB-400			outside	4.51	114.6	12.50	317.5	11.63	295.3
	2.45	1.11	inside*	3.50	89.0	10.85	275.6	10.40	264.2
CLB-425			outside	4.76	120.9	12.50	317.5	11.63	295.3
	2.45	1.11	inside*	3.75	95.3	10.85	275.6	10.40	264.2
CLB-450			outside	5.01	127.3	12.50	317.5	11.63	295.3
	2.49	1.13	inside*	4.00	102.0	10.85	275.6	10.40	264.2
CLB-475			outside	5.26	133.6	12.50	317.5	11.63	295.3
	2.49	1.13	inside*	4.25	108.0	10.85	275.6	10.40	264.2
CLB-500			outside	5.51	140.0	12.50	317.5	11.63	295.3
	2.50	1.14	inside*	4.50	114.3	10.85	275.6	10.40	264.2
CLB-525			outside	5.76	146.3	12.50	317.5	11.63	295.3
	2.50	1.14	inside*	4.75	120.7	10.85	275.6	10.40	264.2

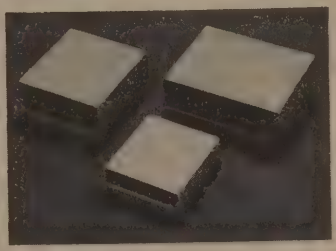
Series CLS (extended height)
Series CLBS (extended height & tilt stand)

For prototype kits, add the suffix "K" to the model numbers listed below:

CLS-625			outside	6.76	171.7	12.50	317.5	11.63	295.3
	2.99	1.36	inside*	5.75	146.1	10.85	275.6	10.40	264.2

Ordering Code	Weight lb	kg		Height in	mm	Width in	mm	Depth in	mm
CLS-725			outside	7.76	197.1	12.50	317.5	11.63	295.3
	3.09	1.38	inside*	6.75	171.5	10.85	275.6	10.40	264.2
CLS-825			outside	8.76	222.5	12.50	317.5	11.63	295.3
	3.18	1.44	inside*	7.75	196.9	10.85	275.6	10.40	264.2
CLBS-625			outside	6.76	171.7	12.50	317.5	11.63	295.3
	3.11	1.41	inside*	5.75	146.1	10.85	275.6	10.40	264.2
CLBS-725			outside	7.76	197.1	12.50	317.5	11.63	295.3
	3.15	1.43	inside*	6.75	171.5	10.85	275.6	10.40	264.2
CLBS-825			outside	8.76	222.5	12.50	317.5	11.63	295.3
	3.31	1.51	inside*	7.75	196.9	10.85	275.6	10.40	264.2

Series CM



Series CM

For prototype kits, add the suffix "K" to the model numbers listed below:

CM3-150			outside	1.75	44.5	3.33	84.6	5.25	133.4
	.25	.115	inside*	1.19	30.2	2.34	59.4	4.81	122.2
CM5-125			outside	1.50	38.1	5.08	129.0	5.25	133.4
	.35	.16	inside*	.95	24.1	4.15	105.4	4.81	122.2
CM3-200			outside	2.25	57.2	5.08	129.0	5.25	133.4
	.36	.16	inside*	1.70	43.18	4.15	105.4	4.81	122.2
CM6-225			outside	2.50	63.5	6.06	153.9	6.25	158.8
	.57	.26	inside*	1.95	49.3	4.87	123.7	5.75	146.1
CM6-300			outside	3.25	82.6	6.06	153.9	6.25	158.8
	.58	.27	inside*	2.70	68.6	4.87	123.7	5.75	146.1
CM86-225			outside	2.50	63.5	8.08	205.2	6.25	158.8
	.64	.29	inside*	1.95	49.3	6.87	174.6	5.75	146.1

Series HP



Series HP

For a prototype kit, order model HP-K

HP			outside	1.12	28.4	3.60	91.4	5.75	146.1
	.19	.09	inside*	.92	23.4	3.25	82.6	5.40	137.2

PACITEC™

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PAMOTOR Miniature Metal Fans

ONE OF THE PURDY GROUP OF COMPANIES

PAMOTOR FANS FOR EFFICIENT COOLING AND HIGH RELIABILITY

- All metal construction
- Low noise level
- Long operating life without maintenance
- Low operating temperature

Pamotor fans designed for high reliability and long life. All metal, non-flammable construction provides extra strength and durability. No cracking, creeping or warping to cause lock-up or bearing failure. Special moisture-resistant finish prevents corrosion or other deterioration from high humidity or extreme temperature variations. Pamotor fans will operate dependably throughout life of the equipment they cool. Housings and venturies aerodynamically designed for maximum air flow with minimum air turbulence to provide more efficient airstream characteristics and reduced noise levels. Speech interference level (SIL) is characteristically 5 dB to 10 dB below that of competitive designs with comparable air flow.

PENTAFLOW™ MINIATURE FANS

- Premium grade
- 5 year warranty

For custom-designed professional-grade instrumentation and equipment; in permanently installed systems requiring optimum performance and absolute dependability for many years; field-replacements or retrofit units for original-equipment fans that have proved to be unreliable, too noisy or inefficient.

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Air Flow cfm	SIL dB	Nominal Size, Inches
4600XP	115	50/60	120	34	4½ x 4½ x 1½
8500P	115	50/60	43	22.3	3⅛ x 3⅛ x 1½*

*Standard mounting dimensions for EIA 3½" rack panels.

WEIGHT AND PRICING

Pamotor Number	Wt., Oz.	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
4600XP	20	$32.45	$29.20	$27.80	$25.90	$24.30
8500P	17	33.50	30.15	28.75	26.80	25.10

INDUCTION-TYPE GENERAL PURPOSE FANS

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Cap. μF	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB
900	24-42	50/60	5.6	2-3	34	1700	16.8
3000	115	50/60	4.0	15	65	3180	29.3

*At 24 VAC.

SIZE, WEIGHT AND PRICING

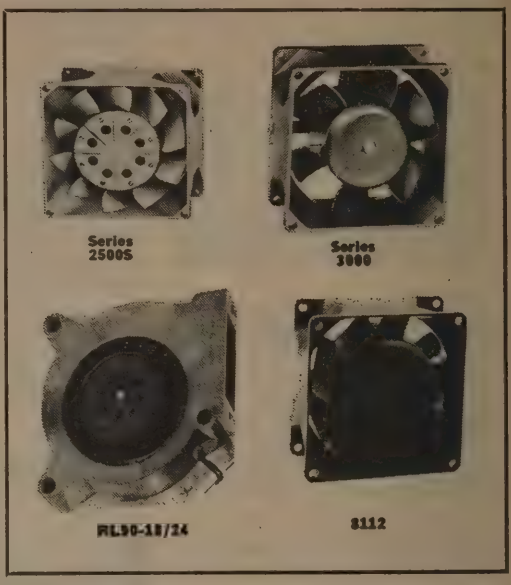
Following pricing does not include the cost of applicable capacitor where required. See below for Pamotor capacitor number and pricing.

Pamotor Number	Nominal Size, Inches	Wt., Ozs.	Net Each, Lots of 1-9	10-24	25-49
900	3⅛ dia. x 1½ d.	4	$20.20	$18.15	$16.85
3000	3½ sq. x 2 d.	19	46.30	41.65	38.60

CAPACITORS FOR INDUCTION-TYPE FANS

Capacitors supplied are either Sprague oval can type or German stud mount (final suffix **G**). When ordering 4 μF or 6 μF capacitors, specify desired type.

Pamotor Number	For Models	Cap. μF	Net Each, Lots of 1-9	10-24	25-49
1005	3000	4.0	$4.85	$4.35	$3.90
1005G	3000	4.0	7.15	6.70	6.35
1011	900	5.6	4.15	3.75	3.50



PAMOTOR METAL FANS AND BLOWERS

DC FANS

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VDC	Air Flow cfm	SIL dB	Speed rpm	Input Power Watts	Input Current mA	Wt. Oz.
4112X	9.5-14	106	32.9	2775	4.0	330	21
4124X	19-28	106	32.9	2775	4.1	170	21
4148X	38-56	106	32.9	2775	4.1	85	21
8112	9.5-14	37	27.9	3225	2.8	230	19
8124	19-28	37	27.9	3225	2.8	115	19
RL90-18/24	19-28	28	44.9	2500	5.5	230	22

SIZE AND PRICING

Pamotor Number	Size, Inches	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
4112X	4½ sq. x 1½ d.	$66.55	$59.85	$55.45	$51.90	$49.05
4124X	4½ sq. x 1½ d.	66.55	59.85	55.45	51.90	49.05
4148X	4½ sq. x 1½ d.	66.55	59.85	55.45	51.90	49.05
8112	3⅛ sq. x 1½ d.	66.55	59.85	55.45	51.90	49.05
8124	3⅛ sq. x 1½ d.	66.55	59.85	55.45	51.90	49.05
RL90-18/24	4¾ sq. 1½ d.	66.55	59.85	55.45	51.90	49.05

RADIAL BLOWERS

Size: 4¾" sq. x 1½" d. Weight: 23 oz.

TYPES AND SPECIFICATIONS

Pamotor Number	Voltage VAC	Frequency Hz	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB
RL90-18/00	115	50/60	21	29	2700	42.7

PRICING

Pamotor Number	Net Each, Lots of 1-9	10-24	25-49	50-99	100-249
RL90-18/00	$32.95	$29.65	$27.45	$25.70	$24.30

Miniature Metal Fans



Series 4600X

SHADED-POLE TYPE GENERAL PURPOSE FANS

TYPES AND SPECIFICATIONS

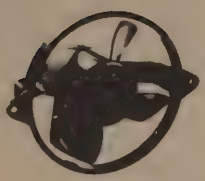
All models are available in 220 V 50/60 Hz versions.

Pamotor No.	Voltage VAC	Frequency Hz	Input Power Watts	Air Flow cfm	Speed rpm	SIL dB	Nominal Size, Inches
2500S	115	50/60	27	115	3300	37.5	4½ sq. x 2 d.
2550S	230	50/60	27	115	3300	37.5	4½ sq. x 2d.
4600X	115	50/60	18	120	3100	34.0	4½ sq. x 1½ d.
4606	115	50/60	18	120	3100	35.0	4½ sq. x 1½ d.
4650X	230	50/60	18	120	3100	34.0	4½ sq. x 1½ d.
4656X*	230	50/60	18	120	3100	35.0	4½ sq. x 1½ d.
4700	115	50/60	20	65	2900	25.0	4½ dia. x 1½ d.
4800X	115	50/60	10	70	1900	21.0	4½ sq. x 1½ d.
7600S	115	50/60	38	250	3200	40.0	6 dia. x 2 d.
7606*	115	50/60	38	250	3200	41.0	6 dia. x 2 d.
7650S	230	50/60	38	250	3200	40.0	6 dia. x 2 d.
7900S	115	50/60	41	225	2900	47.0	6 dia. x 1½ d.
7950S	230	50/60	40.5	225	2900	47.0	6 dia. x 1½ d.
8500D	115	50/60	12	43	3200	22.6	3⅛ sq. x 1½ d.
8506D*	115	50/60	12	43	3200	23.0	3⅛ sq. x 1½ d.
8550D	230	50/60	12	43	3200	22.6	3⅛ sq. x 1½ d.
8556D*	230	50/60	12	43	3200	23.0	3⅛ sq. x 1½ d.

*High-temperature, ball-bearing versions.



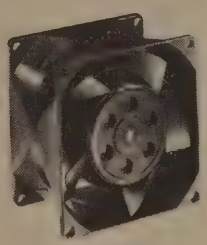
Series 4800X



Series 900



Series 7600



Series 8500D

WEIGHT AND PRICING

Pamotor Number	Wt., Ozs.	Net Each, Lots of				
		1-9	10-24	25-49	50-99	100-249
2500S	32	$42.55	$38.25	$36.45	$33.90	$31.87
2550S	32	43.35	39.00	37.15	34.65	32.50
4600X	18	24.90	22.40	21.35	19.90	18.70
4606X	18	44.50	40.00	38.20	35.60	33.40
4650X	18	26.35	23.70	22.60	21.05	19.75
4656X	18	44.50	40.00	38.20	35.60	33.40
4800X	18	25.75	23.15	22.10	20.60	19.30
7600S	38	40.95	36.80	35.10	32.75	30.70
7606	38	70.40	63.30	60.35	56.25	52.75
7650S	38	40.95	36.80	35.10	32.75	30.70
7900S	27	48.85	43.95	41.90	39.05	36.60
7950S	27	48.85	43.95	41.90	39.05	36.60
8500D	17	25.75	23.15	22.10	20.60	19.30
8506D	17	45.05	40.50	38.60	36.00	33.75
8550D	17	27.10	24.35	23.25	21.65	20.30
8556D	17	45.05	40.50	38.60	36.00	33.75

ACCESSORIES

Pamotor Number	Description	For Series	Net, 1-499
5501	Brackets (pair)	2500, 4112, 4124, 4148, 4600, 4800	$1.10
5502	Filter		2.85
5503	Screen assembly		6.95
5504	Finger guard		3.70
5505	Plug & cord (24")	4112, 4124, 4148, 4600, 4800	1.20
5505-6	Plug & cord (6")		1.20
5506	Finger guard	7600, 7900	6.95
5508	Finger guard	8112, 8124, 8148, 8500	2.95
5511	Adapter ring	7600, 7900	3.40
5512	Adapter ring		4.65

FOR INDUSTRIAL ELECTRONIC EQUIPMENT AND PARTS,
WE CAN SUPPLY ALL YOUR REQUIREMENTS,
OFFERING COMPLETE LINE WITH UP-TO-DATE STOCK, FAST DELIVERY AND INDUSTRIAL QUANTITY CONVENIENCE. AS NEW PRODUCTS ARE DEVELOPED, WE WILL OBTAIN THEM FOR YOUR IMMEDIATE AVAILABLITY.
WRITE FOR FULL INFORMATION ON NEW OR UNLISTED ITEMS.

Premier Trimline Series

TRIMLINE INSTRUMENT CASES



TIC-081517
Free Standing Unit Convertible
To Rack Mounted Installation

- **Distinctive electronic packaging.**
- **High in quality and distinction—moderate in cost.**
- **Welded construction throughout except for bolted trim.**
- **EIA universal spacing (⅜"–⅝"–½").**

Designed to meet engineering and marketing design requirements for OEM electronic products packaging for free standing or rack mounted instrumentation or systems. Cases trimmed front and rear with anodized extruded aluminum and decorative vinyl inlays. Carrying hand grips are also decorated with matching inlays. Finishes are available in a wide choice of standard Premier colors in either fine grained textured vinyls or semi-gloss enamels. Case body #20 gauge cold rolled steel. Panel and accessory mounting channels #16 gauge cold rolled steel. Hand grip mounting channel and stiffener. Trim anodized extruded aluminum with vinyl inlay. Top carrying handle supplied with 9½" panel widths; side hand grips supplied with 15⅝" and 19" panel widths. Top horizontal trim can accommodate engraved or printed name plate. Panel and interior equipment mounting channels are provided with holes on EIA and WE standard spacing to accept #10 Tinnerman speed nuts and screws. Ventilation provisions and other modifications available on request. Provisions for equipment mounting permit the ready use of the following accessories: tilt-stand, front and rear panels, slides, rack adapters, chassis and shelf support angles, interior mounting matrix panels for components and/or brackets, and access doors with or without locks.

- **Special Design Size (15⅝" Panel Width)**

Special design size has been incorporated into the Trimline Instrument Case line which makes the entire case easily adaptable into standard 19" rack systems. Overall case width accommodates rack adapters to fit cleanly into 19" rack widths. Overall case height conforms to standard panel heights, requiring no fillers to adjacent panels above or below the Trimline Case. Ideal for bench or test instrumentation that might need transfer into a rack mounted system without requiring a different sized enclosure for each usage.

- **Standard Premier Colors:**

Smoke blue finish, other finishes available. See color chart.

Size, Inches		19" PANEL WIDTHS		15⅝" PANEL WIDTHS		9½" PANEL WIDTHS	
Nom. Panel Height	Panel to Panel Depth	Premier No.	Net Each^	Premier No.	Net Each^	Premier No.	Net Each^
3½	13	TIC-031913	$ 88.14	TIC-031513	$ 84.94	TIC-030913	$ 70.84
5¼	13	TIC-051913	91.03	TIC-051513	87.83	TIC-050913	73.71
7	13	TIC-071913	95.51	TIC-071513	90.72	TIC-070913	76.62
8¾	13	TIC-081913	96.79	TIC-081513	93.61	TIC-080913	79.49
10½	13	TIC-101913	99.66	TIC-101513	96.48	TIC-100913	82.37
12¼	13	TIC-121913	102.57	TIC-121513	99.37	TIC-120913	85.25
14	13	TIC-141913	106.22	TIC-141513	103.00	TIC-140913	89.43
17½	13	TIC-171913	110.65	TIC-171513	105.84	TIC-170913	93.75
21	13	TIC-211913	115.56	TIC-211513	111.92	TIC-210913	98.34
24½	13	TIC-241913	123.11	TIC-241513	118.32	TIC-240913	104.65
28	13	TIC-281913	131.25	TIC-281513	126.46	TIC-280913	112.20
3½	17	TIC-031917	91.20	TIC-031517	87.87	TIC-030917	72.52
5¼	17	TIC-051917	94.18	TIC-051517	90.82	TIC-050917	76.01
7	17	TIC-071917	97.14	TIC-071517	93.81	TIC-070917	78.96
8¾	17	TIC-081917	100.08	TIC-081517	96.76	TIC-080917	81.94
10½	17	TIC-101917	103.07	TIC-101517	99.71	TIC-100917	84.88
12¼	17	TIC-121917	106.02	TIC-121517	102.69	TIC-120917	87.87
14	17	TIC-141917	109.75	TIC-141517	106.40	TIC-140917	92.11
17½	17	TIC-171917	114.34	TIC-171517	111.02	TIC-170917	96.73
21	17	TIC-211917	120.92	TIC-211517	116.00	TIC-210917	102.33
24½	17	TIC-241917	128.94	TIC-241517	123.98	TIC-240917	109.75
28	17	TIC-281917	136.91	TIC-281517	131.98	TIC-280917	118.59
3½	21	TIC-031921	94.29	TIC-031521	90.81	.....	.....
5¼	21	TIC-051921	97.32	TIC-051521	93.82	.....	.....
7	21	TIC-071921	100.38	TIC-071521	96.87	.....	.....
8¾	21	TIC-081921	103.41	TIC-081521	99.90	.....	.....
10½	21	TIC-101921	106.44	TIC-101521	102.95	.....	.....
12¼	21	TIC-121921	109.49	TIC-121521	105.99	.....	.....
14	21	TIC-141921	113.26	TIC-141521	109.78	.....	.....
17½	21	TIC-171921	118.04	TIC-171521	114.55	.....	.....
21	21	TIC-211921	126.16	TIC-211521	121.22	.....	.....
24½	21	TIC-241921	134.31	TIC-241521	129.37	.....	.....
28	21	TIC-281921	142.44	TIC-281521	137.50	.....	.....

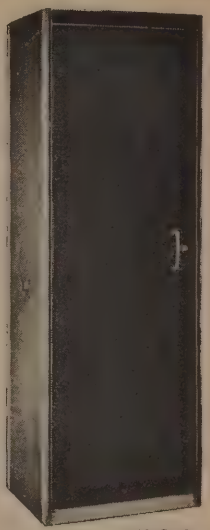
^INDUSTRIAL DISCOUNTS

Minimum order, $40.00.

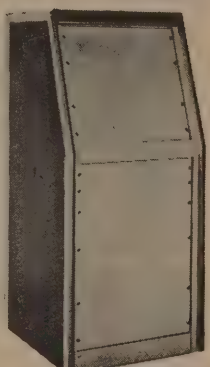
Invoice Value	Discount
$ 40.00 to $ 750.00	Net
750.01 to 1500.00	4%
1500.01 to 3000.00	8%
3000.01 to 6000.00	12%
6000.01 to 10000.00	15%

Premier Trimline Series

Trimline series presents trim, classic styling and provides major design requirements for protection, accessibility and cost-saving mounting of electronic equipment. Frame is #14 gauge steel formed uprights, welded to formed one-piece top and base sections. Base has knock outs and cutouts for cables, leads and mounting of concealed casters. Two pairs of #12 gauge steel panel mounting angles, fully adjustable, have EIA spaced 10-32 holes. Screws with nylon washers are furnished. Trim serves as functional decor in system design, made of extruded aluminum with walnut or black grained vinyl inlay, provides extra 1" deep recess for door mounting and panel area. Vertical trim is 5/8" wide with 5/16" inlay; horizontal top trim for use with or without front door is 2 1/8" wide with 1 11/16" inlay; 3" top horizontal trim covers full face of frame top with 2 9/16" inlay. Outside removable, flush side panels are formed of one-piece of #16 gauge steel with welded stiffeners; give quick access to enclosed equipment for inspection and service. Doors formed from one piece of #16 gauge steel with full length welded vertical channel reinforcement; have concealed hinges; are instantly detachable without tools. Fully gasketed doors can be mounted for left or right hand operation and are held closed with full length magnetic stripping. Brushed aluminum handle and locking latch with 2 keys are provided. Available in choice of light gray, smoke blue, beige tan, white, charcoal brown, black, green, bright blue, gray hammertone or prime coat colors. Two-tone combination may be selected by choosing different finishes for frames, doors and panels. **TVA Series:** Vertical enclosures, assemblies include: Frame with trim, 2 pair of adjustable panel mounting angles, 2 outside removable side panels, rear mounted door with handle, lock and keys. Frame includes trim and 2 pair of panel mounting angles. **TSA Series:** Sloped front enclosures, assemblies include: Same as TVA Series above and fixed angles on front sloping panel area. Sloped front 19° from vertical. **To order specify color, trim style and door position (LH or RH).**



TVA Series
(Front Door Extra)



TSA Series
(Front Panels Extra)

VERTICAL ENCLOSURES

Panel Size In. W. x D. x H.	Assemblies		Frames		Panels per Pair		Rear Door	
	Premier No.	Net▲	Premier No.	Net▲	Premier No.	Net▲	Premier No.	Net▲
19 x 17 x 21	TVA-2119-17	$263.66	TVF-2119-17	$154.98	TVP-2117	$50.15	TVD-2119	$ 58.53
19 x 17 x 31½	TVA-3119-17	288.42	TVF-3119-17	166.19	TVP-3117	57.82	TVD-3119	64.41
19 x 17 x 42	TVA-4219-17	329.39	TVF-4219-17	191.85	TVP-4217	66.33	TVD-4219	71.21
19 x 17 x 52½	TVA-5219-17	358.09	TVF-5219-17	206.57	TVP-5217	73.12	TVD-5219	78.40
19 x 17 x 61¼	TVA-6119-17	388.21	TVF-6119-17	218.85	TVP-6117	83.83	TVD-6119	85.53
19 x 17 x 70	TVA-7019-17	420.74	TVF-7019-17	232.76	TVP-7017	94.55	TVD-7019	93.43
19 x 17 x 77	TVA-7719-17	452.66	TVF-7719-17	246.65	TVP-7717	105.28	TVD-7719	100.73
19 x 23 x 21	TVA-2119-23	288.94	TVF-2119-23	174.55	TVP-2123	55.86	TVD-2119	58.53
19 x 23 x 31½	TVA-3119-23	315.41	TVF-3119-23	185.78	TVP-3123	65.22	TVD-3119	64.41
19 x 23 x 42	TVA-4219-23	362.32	TVF-4219-23	217.15	TVP-4223	73.96	TVD-4219	71.21
19 x 23 x 52½	TVA-5219-23	395.57	TVF-5219-23	231.85	TVP-5223	85.32	TVD-5219	78.40
19 x 23 x 61¼	TVA-6119-23	426.68	TVF-6119-23	244.14	TVP-6123	97.01	TVD-6119	85.53
19 x 23 x 70	TVA-7019-23	460.16	TVF-7019-23	258.06	TVP-7023	108.67	TVD-7019	93.43
19 x 23 x 77	TVA-7719-23	493.42	TVF-7719-23	271.96	TVP-7723	120.73	TVD-7719	100.73
19 x 29 x 21	TVA-2119-29	317.09	TVF-2119-29	195.37	TVP-2129	63.19	TVD-2119	58.53
19 x 29 x 31½	TVA-3119-29	343.83	TVF-3119-29	206.58	TVP-3129	72.84	TVD-3119	64.41
19 x 29 x 42	TVA-4219-29	396.23	TVF-4219-29	242.13	TVP-4229	82.89	TVD-4219	71.21
19 x 29 x 52½	TVA-5219-29	432.22	TVF-5219-29	256.84	TVP-5229	96.98	TVD-5219	78.40
19 x 29 x 61¼	TVA-6119-29	464.80	TVF-6119-29	269.12	TVP-6129	110.15	TVD-6119	85.53
19 x 29 x 70	TVA-7019-29	499.28	TVF-7019-29	283.06	TVP-7029	122.79	TVD-7019	93.43
19 x 29 x 77	TVA-7719-29	532.74	TVF-7719-29	296.95	TVP-7729	135.06	TVD-7719	100.73
24 x 17 x 21	TVA-2124-17	278.65	TVF-2124-17	163.41	TVP-2117	50.15	TVD-2124	65.09
24 x 17 x 31½	TVA-3124-17	303.89	TVF-3124-17	174.62	TVP-3117	57.82	TVD-3124	71.45
24 x 17 x 42	TVA-4224-17	342.81	TVF-4224-17	197.74	TVP-4217	66.33	TVD-4224	78.74
24 x 17 x 52½	TVA-5224-17	374.51	TVF-5224-17	215.00	TVP-5217	73.12	TVD-5224	86.39
24 x 17 x 61¼	TVA-6124-17	405.05	TVF-6124-17	227.30	TVP-6117	83.83	TVD-6124	93.92
24 x 17 x 70	TVA-7024-17	437.99	TVF-7024-17	241.22	TVP-7017	94.55	TVD-7024	102.22
24 x 17 x 77	TVA-7724-17	470.80	TVF-7724-17	255.12	TVP-7717	105.28	TVD-7724	110.40
24 x 23 x 21	TVA-2124-23	304.64	TVF-2124-23	183.69	TVP-2123	55.86	TVD-2124	65.09
24 x 23 x 31½	TVA-3124-23	331.58	TVF-3124-23	194.91	TVP-3123	65.22	TVD-3124	71.45
24 x 23 x 42	TVA-4224-23	378.97	TVF-4224-23	226.27	TVP-4223	73.96	TVD-4224	78.74
24 x 23 x 52½	TVA-5224-23	412.71	TVF-5224-23	241.00	TVP-5223	85.32	TVD-5224	86.39
24 x 23 x 61¼	TVA-6124-23	444.21	TVF-6124-23	253.28	TVP-6123	97.01	TVD-6124	93.92
24 x 23 x 70	TVA-7024-23	478.10	TVF-7024-23	267.21	TVP-7023	108.67	TVD-7024	102.22
24 x 23 x 77	TVA-7724-23	512.24	TVF-7724-23	281.11	TVP-7723	120.73	TVD-7724	110.40
24 x 29 x 21	TVA-2124-29	317.09	TVF-2124-29	205.67	TVP-2129	63.19	TVD-2124	65.09
24 x 29 x 31½	TVA-3124-29	360.71	TVF-3124-29	216.42	TVP-3129	72.84	TVD-3124	71.45
24 x 29 x 42	TVA-4224-29	413.57	TVF-4224-29	251.94	TVP-4229	82.89	TVD-4224	78.74
24 x 29 x 52½	TVA-5224-29	450.05	TVF-5224-29	266.68	TVP-5229	96.98	TVD-5224	86.39
24 x 29 x 61¼	TVA-6124-29	483.03	TVF-6124-29	278.96	TVP-6129	110.15	TVD-6124	93.92
24 x 29 x 70	TVA-7024-29	517.88	TVF-7024-29	292.87	TVP-7029	122.79	TVD-7024	102.22
24 x 29 x 77	TVA-7724-29	552.22	TVF-7724-29	306.76	TVP-7729	135.06	TVD-7724	110.40

SLOPED FRONT ENCLOSURES

Size, Inches W. x D. x H.	Sloped Front Panel Space, In.	Panel to Panel D., In.	Vertical Space, In.		Assemblies		Frames		Panels per Pair		Rear Door	
			Front	Rear	Premier No. TSA-	Net Each▲	Premier No. TSF-	Net Each▲	Premier No. TSP-	Net Each▲	Premier No. TSD-	Net Each▲
22 x 25⅞ x 47⅝	19 x 10½	23	19 x 29¾	19 x 42	1019-23	$411.73	1019-23	$254.69	1023	$86.50	4219	$70.54
22 x 25⅞ x 50⅝	19 x 17½	23	19 x 26¼	19 x 42	1719-23	413.68	1719-23	255.55	1723	87.59	4219	70.54
22 x 31⅞ x 47⅝	19 x 10½	29	19 x 29¾	19 x 42	1019-29	446.09	1019-29	274.54	1029	101.01	4219	70.54
22 x 31⅞ x 50⅝	19 x 17½	29	19 x 26¼	19 x 42	1719-29	448.52	1719-29	275.54	1729	102.44	4219	70.54
27 x 25⅞ x 47⅝	24 x 10½	23	24 x 29¾	24 x 42	1024-23	429.72	1024-23	265.16	1023	86.50	4224	78.06
27 x 25⅞ x 50⅝	24 x 17½	23	24 x 26¼	24 x 42	1724-23	439.17	1724-23	273.52	1723	87.59	4224	78.06
27 x 31⅞ x 47⅝	24 x 10½	29	24 x 29¾	24 x 42	1024-29	464.77	1024-29	285.70	1029	101.01	4224	78.06
27 x 31⅞ x 50⅝	24 x 17½	29	24 x 26¼	24 x 42	1724-29	467.21	1724-29	286.71	1729	102.44	4224	78.06

ACCESSORIES

CHASSIS SUPPORT ANGLES

Adjustable #12 gauge steel angles, mount to side legs of panel mounting angles.

Premier Number	To Fit Panel To Panel Rack Depth, In.	Net per Pair▲
TCS-17	17	$ 9.60
TCS-23	23	11.78
TCS-29	29	14.05

EQUIPMENT SHELVES

For general use, formed of #16 gauge steel, supported on chassis support angles.

Premier Number	To Fit Rack Size, In., W. x D.	Net Each▲
TES-1917	19 x 17	$ 9.98
TES-1923	19 x 23	11.86
TES-1929	19 x 29	15.26
TES-2417	24 x 17	10.82
TES-2423	24 x 23	13.59
TES-2429	24 x 29	17.53

SLIDING DRAWERS

Welded #16 gauge steel drawers are cradle mounted on full extension roller bearing slides with a disconnect feature. Suspension cradle mounts to front panel mtg. angles.

Premier Number	For Front Panel Size, In., W. x D.	Net Each▲
TDR-319	19 x 3½	$47.90
TDR-719	19 x 7	52.17
TDR-1019	19 x 10½	53.28
TDR-324	24 x 3½	53.00
TDR-724	24 x 7	59.33
TDR-1024	24 x 10½	60.65

WRITING SHELVES

Premier Number	Panel Width, In.	Net Each▲
TWS-1918	19	$ 93.71
TWS-2418	24	105.75
TWS-319*	19	63.53
TWS-324*	24	77.49

*Sliding shelves.

TURRETS

Mounted to frames or used individually for optimum viewing. EIA spaced holes.

Premier Number	Sloped Panel Size, In., W. x D.	Net Each▲
TTU-1-19	19 x 14	$65.08
TTU-1-24	24 x 14	72.54
TTU-3-19	19 x 17½	64.77
TTU-3-24	24 x 17½	65.92

OUTLET BOXES

Premier Number	For Panel Height, In.	Net Each▲
OB-161	61¼	$41.57
OB-170	70	43.24
OB-177	77	44.04

Premier No. TLL-250 Levelling Legs: Set of four legs. Each having 250 lbs. load carrying capacity. Net..... **$21.16▲**

See Series PMB Blowers, Cable Retractor, Series CA Casters, SB Series Chassis Slides listed on other Premier pages.

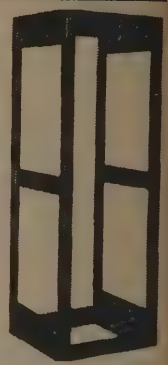
▲See Discount Schedule on another PREMIER page.

Premier Modular Racks



FA SERIES ROUNDED CORNER FRAMES
FOR 19" AND 24" PANELS 22" AND 25½" DEEP
FOR STANDARD 19" RACK PANELS DESIGNED FOR MULTIPLE INSTALLATIONS

- **Tops of front and rear are rounded.**
- Frame made of 14 gauge steel.
- Accommodate ball cornered end panels (CEP Series).
- Supplied with two pairs of 12 ga. steel panel mounting angles, fully adjustable front to rear. Angles have EIA spaced clearance holes. 10/32 screws and captive nuts are furnished.
- Panel mounting angles are held in place at three points by ⅜" bolts, and are adjustable on channel slides.
- Three combination 1⅜" and 1⅛" dia. knockouts on both sides of top and bottom.
- Frame completely welded throughout.
- Top of frame is solid; cutout and mounting holes to accommodate EF Series Exhaust and IF Series Intake Fans available at additional cost.
- Knockouts on sides of uprights for ganging; cutout on bottom for leads.
- Doors mounted front or rear and left or right hand.
- Holes for CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3") casters.
- Smoke blue finish.



FRAMES—22" WIDE

Height, Inches	Panel Space, Inches	22" Deep Models			25½" Deep Models		
		Premier No.	Shpg. Wt.	Net Each▲	Premier No.	Shpg. Wt.	Net Each▲
48⅝	42 x 19	FA-42-22	50 lbs.	$197.84	FA-42-255	58 lbs.	$203.55
59⅛	52½ x 19	FA-52-22	65 lbs.	207.58	FA-52-255	75 lbs.	215.05
67⅞	61¼ x 19	FA-61-22	80 lbs.	218.82	FA-61-255	92 lbs.	226.29
76⅝	70 x 19	FA-70-22	100 lbs.	230.23	FA-70-255	115 lbs.	238.05
83⅜	77 x 19	FA-77-22	110 lbs.	235.73	FA-77-255	127 lbs.	243.55
FRAMES—27" WIDE							
67⅞	61¼ x 24	FA-2761-22	90 lbs.	$237.53	FA-2761-255	98 lbs.	$246.44
76⅝	70 x 24	FA-2770-22	110 lbs.	244.21	FA-2770-255	123 lbs.	258.58
83⅜	77 x 24	FA-2777-22	120 lbs.	251.16	FA-2777-255	135 lbs.	263.23

END PANELS—1-11/32" DEEP

Made of one-piece 16 ga. steel; ball cornered. Attach to frame by a bracket on bottom; held securely by two captive screws on top. Supplied blank. Louvers furnished at extra charge. Smoke blue finish.

22" WIDE

Premier Number	Height, In.	Shpg. Wt., Lbs.	Net Each▲
CEP-42-22	45¼	23	$60.25
CEP-52-22	55⅝	27	66.76
CEP-61-22	64½	30	74.41
CEP-70-22	73¼	33	81.53
CEP-77-22	80¼	35	88.27
25½" WIDE			
CEP-42-255	45¼	28	$63.35
CEP-52-255	55⅝	32	71.24
CEP-61-255	64½	35	79.72
CEP-70-255	73¼	38	86.58
CEP-77-255	80¼	40	94.60

DOORS—13/16" DEEP

Mount either left or right by rotating 180°; hang on slip-jointed hinges; equipped with locking handle. Made of 16 ga. steel. Supplied blank. Louvers furnished at extra cost. Smoke blue finish.

21½" WIDE

Premier Number	Height, In.	Shpg. Wt., Lbs.	Net Each▲
DF-42*	45⅝	20	$60.80
DF-52	56⅛	25	67.76
DF-61	64¹⁵⁄₁₆	28	73.64
DF-70	73⅛	31	81.08
DF-77	80⅛	34	83.68

*Add suffix **-1002** when used with FS-1002 or FS-1004.

26½" WIDE

Premier Number	Height, In.	Shpg. Wt., Lbs.	Net Each▲
DF-2761	64¹⁵⁄₁₆	34	$83.38
DF-2770	73⅛	38	91.83
DF-2777	80⅛	41	95.71

FLUSH DOORS—½" DEEP

For frames CPF, FS, FA and PRXA. Made of 16 gauge steel. Finished in smoke blue. Mount either left or right hand by rotating 180°. Hinged brackets punched for panel mounting angles on cabinets. Chrome-plated handle; snap catch.

Premier Number	Size, In. H. x W.	Shpg. Wt., Lbs.	Net Each▲
CD-17	17½ x 19	7	$19.17
CD-21	21 x 19	8	21.71
CD-26	26¼ x 19	9	24.94
CD-28	28 x 19	10	27.19
CD-29	29¾ x 19	11	29.35
CD-42	42 x 19	16	39.24



FS SERIES 10½" AND 1,½" SLOPED FRONT CONSOLE FRAMES
FOR 19" AND 24" PANELS

- Tops of front and rear are rounded.
- Designed for multiple installation.
- Made of No. 14 gauge steel.
- Sloped front is 19° from vertical.
- Finished in smoke blue.
- Frame is completely welded throughout; panel fits into ½" recess.
- Supplied with two pairs of adjustable panel mounting angles for vertical openings with EIA spaced clearance holes. 10/32 screws and captive nuts are furnished. Front sloped panel space has fixed mounting angles tapped 10/32 holes on EIA spacing.
- A rectangular cutout is provided in the bottom for leads, etc.
- Holes in bottom accommodate CA-4 (2") and CA-5 (3") casters.

Premier Number	Size, Inches W. x D. x H.	Sloped Front Panel Space, In.	Vertical Space, In. Front	Vertical Space, In. Rear	Shpg. Wt., Lbs.	Net Each▲
FS-1001	22 x 22 x 50	17½ x 19	26¼ x 19	42 x 19	66	$200.44
FS-1002	22 x 22 x 47	10½ x 19	29¾ x 19	42 x 19	64	206.22
FS-1003	27 x 22 x 50	17½ x 24	26¼ x 24	42 x 24	76	221.66
FS-1004	27 x 22 x 47	10½ x 24	29¾ x 24	42 x 24	74	231.47
FS-1001-255	22 x 25½ x 50	17½ x 19	26¼ x 19	42 x 19	.....	204.56
FS-1002-255	22 x 25½ x 47	10½ x 19	29¾ x 19	42 x 19	.....	214.01
FS-1003-255	27 x 25½ x 50	17½ x 24	26¼ x 24	42 x 24	.....	231.48
FS-1004-255	27 x 25½ x 47	10½ x 24	29¾ x 19	42 x 24	.....	241.94

END PANELS FOR SLOPED FRONT FRAMES

- One-piece No. 18 gauge steel; smoke blue finish.
- Ball cornered. 1¹¹⁄₁₆" deep.
- End panels are attached to frame by means of a bracket on the bottom; held securely by two captive screws on top.
- Supplied blank. Louvers furnished at additional charge.

Premier End Panels	Used for Frame	*	Net Each▲
CEP-1201LH	Left side FS-1001 & 1003	20	$61.49
CEP-1201RH	Right side FS-1001 & 1003	20	61.49
CEP-1202LH	Left side FS-1002 & 1004	18	60.73
CEP-1202RH	Right side FS-1002 & 1004	18	60.73
CEP-1201-255LH	Left side FS-1001- & 1003-255	22	65.45
CEP-1201-255RH	Rt. side FS-1001- & 1003-255	22	65.45
CEP-1202-255LH	Left side FS-1002- & 1004-255	20	64.73
CEP-1202-255RH	Rt. side FS-1002- & 1004-255	20	64.73

*Shipping Wt., lbs.

TURRET WITH FLAT SIDE PANELS

Turrets may be ganged for console assemblies or mounted on any of their three openings to vertical and pedestal frames. All openings drilled and tapped for 10-32 screws on standard EIA spacing in ½" recess. Frames completely welded 16 ga. steel. Finish available in all Premier std. colors; smoke blue finish supplied unless otherwise specified.



TUR-3



TUR-1

Premier No.	Size, In. W. x H. x D.	Panel Space, In. Front	Panel Space, In. Rear	Panel Space, In. Bottom	Shpg. Wt.	Net Ea.▲
TUR-1-19	22x 9¾x21	14 x19	7 x19	17½x19	25 lbs.	$65.78
TUR-1-24	27x 9¾x21	14 x24	7 x24	17½x24	27 lbs.	72.54
TUR-3-19	22x12¼x17½	17½x19	8¾x19	14 x19	20 lbs.	65.50
TUR-3-24	27x12¼x17½	17½x24	8¾x24	14 x24	22 lbs.	67.19

▲See Discount Schedule on another PREMIER Page.

Premier Transmitter Racks

HEAVY-DUTY RACKS

FOR 19", 24" AND 30" PANELS WITH AND WITHOUT FRONT DOORS 18" AND 24" DEEP

Racks are supplied without louvers on sides unless specified. Constructed of #16 gauge steel with #12 gauge bottom; welded throughout. Supplied with two pairs of 12 ga. steel panel mounting angles, fully adjustable front to rear. Angles have EIA spaced clearance holes. 10/32 screws and captive nuts are furnished. Racks are supplied with or without louvers. Rear doors are hung on sturdy loose-jointed hinges and closed by a chrome handle. A rectangular cutout in bottom is made for leads, etc. Duplex receptacle and outlet box supplied in the back under the door. **Model RMX-7030:** Supplied with double rear doors and 3 point locking device. **Series FDX:** Supplied with locking handle on front door; panel mounting angles adjustable to any distance from front by channel slides. Base punched to accept casters. **Finish:** Smoke blue.



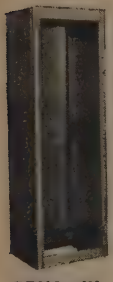
RACKS WITHOUT DOORS, 18" DEEP

Premier Number	Size, In. H. x W.	Panel* Ht., In.	Wt., § Lbs.	Net Each▲
RMX-3619	42 7/8x22	36¾	100	$204.10
RMX-4219	48 1/8x22	42	130	217.91
RMX-6119	67 3/8x22	61¼	150	249.67
RMX-7019	76 1/8x22	70	170	266.15
RMX-7719	83 1/8x22	77	190	281.26
24" DEEP RACKS				
RMX-3619-24	42 7/8x22	36¾	110	$219.40
RMX-4219-24	48 1/8x22	42	130	238.11
RMX-6119-24	67 3/8x22	61¼	175	273.16
RMX-7019-24	76 1/8x22	70	200	291.14
RMX-7719-24	83 1/8x22	77	225	306.51
RMX-7030	76 1/8x33	70†	240	423.51
RMX-2742	48 1/8x27	42‡	170	255.94
RMX-2761	67 3/8x27	61¼‡	210	291.34
RMX-2770	76 1/8x27	70‡	240	309.71
RMX-2777	83 1/8x27	77‡	270	326.48

RACKS WITH DOORS, 18" DEEP

Premier Number	Size, In. H. x W.	Panel* Ht., In.	Wt., § Lbs.	Net Each▲
FDX-3619	42 7/8x22	36¾	115	$255.35
FDX-4219	48 1/8x22	42	120	262.04
FDX-6119	67 3/8x22	61¼	175	307.09
FDX-7019	76 1/8x22	70	200	325.91
FDX-7719	83 1/8x22	77	220	343.05
24" DEEP RACKS				
FDX-3619-24	42 7/8x22	36¾	125	$266.20
FDX-4219-24	48 1/8x22	42	150	282.23
FDX-6119-24	67 3/8x22	61¼	200	325.33
FDX-7019-24	76 1/8x22	70	255	350.92
FDX-7719-24	83 1/8x22	77	270	368.27
FDX-2742	48 1/8x27	42‡	180	302.98
FDX-2761	67 3/8x27	61¼‡	230	352.29
FDX-2770	76 1/8x27	70‡	260	382.72
FDX-2777	83 1/8x27	77‡	290	401.81

*19" wide unless otherwise noted. †30" wide. ‡24" wide. §Shipping.



PRXA with FL Panels

MODULAR SQUARE CORNERED FRAMES

FOR MULTIPLE INSTALLATIONS 18" AND 24" D. FOR 19" AND 24" PANELS

Frames accommodate flush side panels (FL Series). Tops of front and rear are square. Made of No. 14 gauge steel, welded throughout. Supplied with two pairs of 12 ga. steel panel mounting angles, fully adjustable front to rear. Angles have EIA spaced clearance holes. 10/32 screws and captive nuts are furnished. Panel mounting angles are held in place at three points by ⅜" bolts, are adjustable. Top of frame is solid; round hole and five mtg. holes for EF Series Exhaust and IF Series Intake Fans. Frames may be ganged. Lead cutout at bottom. Doors can be mounted to front or rear of frame, and can be mounted left or right hand—knockouts for hinge and handle brackets. Holes for casters—CA-4 (2"), CA-5 (3"), CA-6 (double 2") and CA-7 (locking 3"). Smoke blue finish.

FRAMES AND DOORS

Frames and doors are sold separately. Doors are made of No. 16 ga. steel; mount either left or right hand by rotating 180°. Supplied blank. Louvers available at extra charge. Slip-jointed hinges. Locking handle. Smoke blue finish.

Frame Ht., In.	Panel Space, Inches	Width, In.	18" Deep Frames: Premier Number	18" Deep Frames: Shpg. Lbs.	18" Deep Frames: Net Each▲	24" Deep Frames: Premier Number	24" Deep Frames: Shpg. Lbs.	24" Deep Frames: Net Each▲	Doors: Premier Number	Doors: Size, Inches W. x H.	Doors: Shpg. Lbs.	Doors: Net Each▲
48⅛	42 x 19	22	PRXA-42	48	$166.91	PRXA-42-24	58	$176.67	DF-42	21½ x 45⅛	20	$60.80
58⅝	52½ x 19	22	PRXA-52	60	180.48	PRXA-52-24	72	189.94	DF-52	21½ x 56⅛	25	67.76
67⅜	61¼ x 19	22	PRXA-61	70	192.08	PRXA-61-24	85	201.75	DF-61	21½ x 64¹³⁄₁₆	28	73.64
76⅛	70 x 19	22	PRXA-70	88	203.14	PRXA-70-24	108	212.79	DF-70	21½ x 73⅛	31	81.08
83⅛	77 x 19	22	PRXA-77	100	208.66	PRXA-77-24	120	221.61	DF-77	21½ x 80⅛	34	83.68
67⅜	61¼ x 24	27	PRXA-2761	100	200.91	PRXA-2761-24	134	220.53	DF-2761	26½ x 64¹³⁄₁₆	34	83.38
76⅛	70 x 24	27	PRXA-2770	104	212.31	PRXA-2770-24	140	231.59	DF-2770	26½ x 73⅛	38	91.83
83⅛	77 x 24	27	PRXA-2777	116	216.07	PRXA-2777-24	156	235.41	DF-2777	26½ x 80⅛	41	95.71

*Double doors with 3-point locking device.

FLUSH SIDE PANELS ½" DEEP

One-pc. 16-ga. steel. Fits frame side recess; clips on. Smoke blue.

15" Wide for 18" Deep Frames

Premier No.	Height, In.	To Fit Frame No.	Shpg. Lbs.	Net Each▲
FL-42	48	PRXA-42	19	$32.94
FL-52	58½	PRXA-52	21	36.31
FL-61	67¼	PRXA-61, 2761, 3361	22	42.01
FL-70	76	PRXA-70, 2770, 3370	25	47.24
FL-77	83	PRXA-77, 2777, 3377	27	53.11

21" Wide for 24" Deep Frames

Premier No.	Height, In.	To Fit Frame No.	Shpg. Lbs.	Net Each▲
FL-42-24	48	PRXA-42-24	21	$36.53
FL-52-24	58½	PRXA-52-24	24	42.29
FL-61-24	67¼	PRXA-61-24, 2761-24, 3361-24	27	48.88
FL-70-24	76	PRXA-70-24, 2770-24, 3370-24	30	54.61
FL-77-24	83	PRXA-77-24, 2777-24, 3377-24	33	61.18

PANEL MOUNTING ANGLES

1¼" x 1¼" #12 ga. steel punched on EIA spacings (⅝–⅝–½) on both legs. 10/32 screws and captive nuts supplied. Angles with tapped holes available at additional charge. Smoke blue finish.

Premier No.	To Fit Racks	Ht., In.	Net/ Pair▲
PMA-362	FDX & RMX 3619, 3619-24	36¾	$17.09
PMA-422	FDX & RMX 4219,4219-24,2742	42	19.66
PMA-612	FDX & RMX 6119,6119-24,2761	61¼	24.50
PMA-702	FDX-7019, 7019-24, 2770; RMX 7618, 7618-24, 7030, 2770	70	27.48
PMA-772	FDX & RMX 7719,7719-24,2777	77	29.62

TRIANGULAR CHASSIS MOUNTING BRACKET

16 gauge steel. Light gray. Sold in pairs.

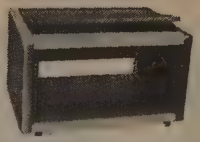
Prem. No.	Height x Depth	Shpg. Wt.	Net/Pair▲
TCB-55	5" x 5"	1 lb.	$4.60
TCB-77	7" x 7"	1 lb.	5.35
TCB-99	9" x 9"	1½ lbs.	6.75



▲See Discount Schedule on another PREMIER page.

Premier Cabinet Racks

DESK CABINETS
POR SERIES



SHIPPED KNOCKED-DOWN WITH ALL NECESSARY HARDWARE FOR EASY ASSEMBLY, STORAGE AND SHIPPING

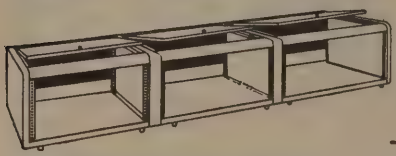
- **Both front and rear of top have attractive ball corners.**
- All screws for assembling POR Series are not visible from the outside.
- Both front and rear verticals are tapped for 10-32 machine screws on EIA spacings so that panels may be mounted on both front and rear if desired.
- Interlocking removable rear panel and top made of perforated metal and held in place by captive screws.

KNOCKED DOWN CABINET RACKS
15¼" AND 18" DEEP
FOR STANDARD 19" PANELS

- **FINISHED IN TWO-TONE FINISH.**
  Top cross braces and base are light gray.
  Top and rear panel and side panels are smoke blue.
- Rigidly constructed of #16 gauge steel.
- Rear panel has 3½" opening on bottom for leads, etc., except POR-3, -5, -318, -518.
- Panels fit into ⅛" recess.
- Base supplied with four rubber feet.
- Components may be mounted on base before assembly of rack into a complete unit.

ALL CABINETS ARE 21¾" WIDE

15¼" DEEP					18" DEEP		
Premier No.	Net Each▲	Shp. Wt., Lbs.	Overall Height	Panel Space	Premier No.	Net Each▲	Shp. Wt., Lbs
POR-3	$ 73.88	18	5¼"	3½"	POR-318	$ 78.18	20
POR-5	75.40	20	7⅜"	5¼"	POR-518	79.31	22
POR-7	79.83	22	9⅜"	7"	POR-718	83.02	24
POR-8	82.25	24	11¼"	8¾"	POR-818	86.22	26
POR-10	85.36	26	12¾"	10½"	POR-1018	89.88	29
POR-12	88.93	28	14⅝"	12¼"	POR-1218	94.25	31
POR-14	93.21	32	16⅝"	14"	POR-1418	98.98	35
POR-17	101.50	40	19⅛"	17½"	POR-1718	106.19	44
POR-21	110.27	44	23⅝"	21"	POR-2118	118.46	48
POR-26	119.26	45	28⅝"	26¼"	POR-2618	125.63	49
POR-31	129.47	50	33⅛"	31½"	POR-3118	135.61	55
POR-35	135.58	55	37⅝"	35"	POR-3518	142.20	60



MULTIPLE SECTION FOR POR SERIES DESK CABINETS

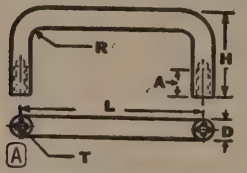
POR Series Desk Cabinets can be joined together to make multiple units by means of a center frame section which is bolted to the top cross pieces and base. When ordering multiple units specify number of units, such as Double, Triple, etc.
Example: One Double POR-1218 consists of one POR-1218 and one MOR-1218.
One Triple POR-8 consists of one POR-8 and two MOR-8.
Unit shown at left is one Triple POR-8 which consists of one POR-8 and two MOR-8.

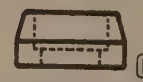
Each Multiple Section (MOR Series) comprises six pieces as shown below.



15¼" Deep					18" Deep		
Premier No.	Shpg. Lbs.	Net Each▲	Overall Height	Panel Space	Premier No.	Shpg. Lbs.	Net Each▲
MOR-3	16	$48.87	5⅛"	3½"	MOR-318	18	$52.44
MOR-5	17	49.91	7⅜"	5¼"	MOR-518	19	53.47
MOR-7	18	54.02	9⅜"	7"	MOR-718	20	57.02
MOR-8	19	56.13	11⅛"	8¾"	MOR-818	21	59.69
MOR-10	20	59.30	12⅞"	10½"	MOR-1018	23	62.46
MOR-12	21	61.53	14⅝"	12¼"	MOR-1218	24	66.26
MOR-14	23	65.36	16⅝"	14"	MOR-1418	26	70.44
MOR-17	31	72.39	19⅛"	17½"	MOR-1718	34	77.26
MOR-21	33	80.88	23⅝"	21"	MOR-2118	37	87.96
MOR-26	34	91.47	28⅝"	26¼"	MOR-2618	38	96.34
MOR-31	36	99.59	33⅛"	31½"	MOR-3118	40	104.67
MOR-35	40	105.32	37⅝"	35"	MOR-3518	44	110.40

HANDLES FOR INSTRUMENT AND EQUIPMENT HOUSINGS





Ⓐ **HW-16 Series—Material:** Aluminum per QQ-A-325-A. **Finish:** Black anodize per MIL-A-8625 Type II. Also available in semifrost per MIL-A-8625 Type II.

Ⓐ **HW-17 Series—Material:** Brass per QQ-B-626 comp. 22½ hard. **Finish:** Nickel-plate and polish per MIL-QQ-N-290 Type VI. Also available in black oxide finish per MIL-F-495A.

Premier Number	Description	Dimensions, Inches L	H	A	T	D	R	Net Ea.▲
HW-16A1	Aluminum, black anodized.	3	1½	9/16	10-24	9/32 x 5/8 oval	½	$3.59
HW-16A4		4⅜	1½	½	10-24			3.95
HW-16A6		6⅛	1¾	½	10-24			4.48
HW-17B1	Brass, nickel-plate and polish.	3	1½	9/16	10-32	9/32 x 5/8 oval	½	6.18
HW-17B4		4⅜	1½	½	10-32			6.99
HW-17B6		6⅛	1¾	½	10-32			7.86
HW-18B3	Brass, nickel-plate and polish.	3	1⅛	7/16	8-32	5/16 round	5/16	4.16
HW-19B1	Brass, nickel-plate and polish.	2	1½	9/16	8-32	¼ round	¼	3.78
HW-19B2		3	1½	9/16	8-32			4.03
HW-19B3		4	1½	9/16	8-32			4.20
HW-19B4		6	1½	9/16	8-32			4.67
HW-20A1	Aluminum, black anodized.	2	1½	9/16	8-32	¼ round	¼	3.22
HW-20A2		3	1½	9/16	8-32			3.35
HW-20A3		4	1½	9/16	8-32			3.16
HW-20A4		6	1½	9/16	8-32			3.37

▲**See Discount Schedule on another PREMIER page.**

HW-18—HW-20 SERIES

Ⓐ **HW-18 Series—Material:** Brass per QQ-B-626 comp. 22½ hard. **Finish:** Nickel-plate and polish per MIL-QQ-N-290 Type VI. Also available in black oxide finish per MIL-F-495A.

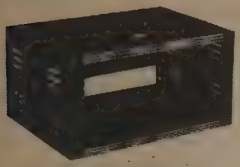
Ⓐ **HW-19 Series—Material:** Brass per QQ-B-626 comp. 22½ hard. **Finish:** Nickel-plate and polish per MIL-QQ-N-290 Type VI. Also available in black oxide finish per MIL-F-495A.

Ⓐ **HW-20 Series—Material:** Aluminum per QQ-A-325A. **Finish:** Black anodize per MIL-A-8625 Type II. Also available in semifrost per MIL-A-8625 Type II.

METAL FERRULES FOR HANDLES

Premier Number	For Handle Dia.	Material	Finish	Net Ea.▲
HW-23AF	¼"	Alum.	Anodized blk.	68c
HW-24BF	¼"	Brass	Nickel-plated,	76c
HW-25BF	5/16"	Brass	polished	84c

Premier Cabinets and Racks



DCR Series (Welded)

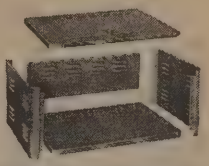
PREMIER DESK CABINET RACKS

12", 15¼" AND 18" DEEP

FOR STANDARD 19" RACK PANELS

ALL CABINETS 21¾" WIDE

- Constructed of #16 gauge cold rolled sheet steel.
- Panel mounting holes are tapped for 10-32 machine screws on EIA spacings (⅝"–⅝"–½").
- Front vertical corners are rounded.



DRK Series With Top Door
MDK Series With Solid Top
(Knocked Down)

- Top and bottom trimmed with molding.
- Top doors equipped with piano type hinges and snap catches.
- Panels fit into a ¼" recess; edges are not exposed.
- Gussets welded at bottom of rear on Models 170–350 for additional strength.
- On knocked down models the bolts are not visible from the outside and have the same appearance as the welded models.
- DRK Series identical to DCR Series except shipped knocked down with all necessary hardware for assembly.
- MDK Series is made with solid top and shipped knocked down with all necessary hardware for assembly.
- Finished in smoke blue. Other finishes available.

MDK SERIES WITH SOLID TOP

12" DEEP CABINET RACKS

Knocked-Down

Premier No.	Description	Size, Inches: Cabinet Height	Size, Inches: Panel Space	Shpg. Wt., Lbs.	Net Each▲
MDK-50	With removable rear panel	7	5¼	16	$39.54
MDK-70		8¾	7	20	40.79
MDK-80		10½	8¾	21	42.74
MDK-100		12¼	10½	23	44.10
MDK-120		14	12¼	25	48.27
MDK-140		15¾	14	29	52.08
MDK-170	With rear door	19¼	17½	36	60.70
MDK-210		22¾	21	39	64.79
MDK-260		28	26¼	40	70.98
MDK-280		29¾	28	41	74.04

DCR AND DRK SERIES

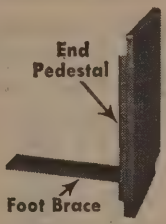
15¼" DEEP CABINET RACKS

Welded: Premier No.	Welded: Shpg. Wt., Lbs.	Welded: Net Each▲	Knocked-Down: Premier No.	Knocked-Down: Shpg. Wt., Lbs.	Knocked-Down: Net Each▲	Description	Cabinet Height	Avail. Panel Space
DCR-70	22	$56.97	DRK-70	22	$60.15	Door on top only	8¾"	7"
DCR-80	24	58.48	DRK-80	24	61.78		10½"	8¾"
DCR-100	26	59.41	DRK-100	26	63.26		12¼"	10½"
DCR-120	28	61.25	DRK-120	28	67.86		14"	12¼"
DCR-140	32	65.07	DRK-140	32	71.44		15¾"	14"
DCR-170	40	74.75	DRK-170	40	80.83	Door on top and on rear	19¼"	17½"
DCR-190	42	76.17	DRK-190	42	82.79		21"	19¼"
DCR-210	44	79.03	DRK-210	44	85.64		22¾"	21"
DCR-260	45	84.32	DRK-260	45	91.33		28"	26¼"
DCR-310	50	88.81	DRK-310	50	97.12		33¼"	31½"
DCR-350	55	93.08	DRK-350	55	101.42		36¾"	35"

18" DEEP CABINET RACKS

Welded: Premier No.	Welded: Shpg. Wt., Lbs.	Welded: Net Each▲
DCR-1880	26	$62.05
DCR-18100	29	63.06
DCR-18120	31	68.18
DCR-18140	35	70.99
DCR-18170	44	81.56
DCR-18190	46	83.90
DCR-18210	48	85.99
DCR-18260	49	91.28
DCR-18310	55	95.82
DCR-18350	60	99.80

END PEDESTAL AND FOOT BRACE FOR DOUBLE UNIT ASSEMBLY



- Made of No. 18 gauge steel.
- Ball cornered.
- Foot Brace mounts to Pedestal Frame CPF Series and End Pedestal PE-901.
- Foot Brace can be mounted between two Pedestal Frames (CPF Series).
- Finished in smoke blue.

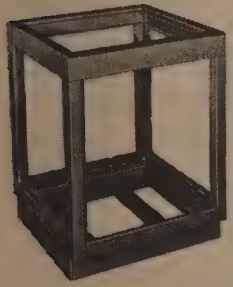
END PEDESTAL

Premier No.	Shipping Wt.	Net Each▲
PE-901	25 lbs.	$61.32

FOOT BRACE

Premier No.	Shpg. Wt. Lbs.	Used With	Net Each▲
FB-801	3	22" wide work tops	$14.98
FB-802	3½	27" wide work tops	16.49

CPF SERIES ROUNDED PEDESTAL CABINET



FRAME

Accommodates ball cornered end panel (CEP Series). Designed for multiple installation. Supplied with two pairs of adjustable panel mounting angles for vertical openings with EIA spaced clearance holes. 10/32 screws and captive nuts are furnished. Panels fit into ½" recess. Two rectangular knockouts supplied on one top cross member to accommodate channels of writing work shelf. Brackets welded in base and punched to accommodate CA-5 (3") casters and supplied with adapter to accommodate CA-4 (2") casters. Frame is No. 16 gauge, angles 12 gauge steel. *Smoke blue finish.

Premier No.	W. x D., In.	Height *	Height †	Panel Space, In. Front‡	Panel Space, In. Top	Wt., Lbs.	Net Each▲
CPF-101	22x22	30"	29½"	21x19	17½x19	45	160.49
CPF-102	22x22	37"	36½"	28x19	17½x19	48	165.85
CPF-101-34	22x34¼	30"	29½"	21x19	29¾x19	54	168.91

*With casters. †Without casters. ‡And rear.

END PANELS

Made of one-piece 18 gauge steel. Designed for easy installation and access, panels attach to pedestal frame by means of two brackets on bottom; held securely with two captive screws on top. **Finish:** Smoke blue.



Premier No.	W. x H.	Used With	Net▲
CEP-401	22" x 26"	CPF-101, -103	$51.65
CEP-402	22" x 33"	CPF-102, -104	54.36
CEP-401-34	34¼" x 26"	CPF-101-34	61.04
CSS-701*	22" x 23"	CPF-101, -103	42.99
CSS-701-34*	34¼" x 23"	CPF-101-34	52.15

*Short end panel, 1¹¹⁄₁₆" deep. Used only when work top is mounted between two pedestal frames.

CASTERS FOR RACKS, CABINETS

Non-marking composition wheel with ball bearing swivel plate. Set of four w/screws for assembly.



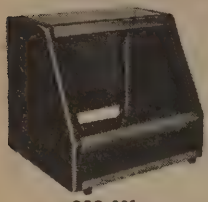
Premier No.	Wheel Type	Wheel Dia., In.	Net per Set▲
CA-4	Plaskite	2	$ 8.07
CA-5	Rockite	3	15.24
CA-6	Soft Rubber	2	18.64
CA-7*	Rockite	3	18.29
CA-8†	Rockite	4	69.71

*Foot-operated friction brake. †Roller bearing wheel.

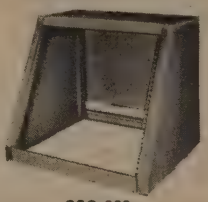
▲See Discount Schedule on another PREMIER Page.

Premier Cabinets and Panels

SLOPING INSTRUMENT CABINETS



CSC-201



CSC-202

Ball corner modular sloping desk top instrument cabinets constructed of #16 gauge steel. May be used individually or joined together for multiple installations. Provisions are made for mounting to tops of pedestal frames. Assembly screws are hidden from outside view. Both front and rear panel openings recessed ½" and tapped for 10-32 screws on EIA spacings (⅝"–⅝"–½"). Interlocking removable rear panel is perforated metal, held in place by captive screws and furnished with 1¾" opening at the bottom for leads. Shipped knocked down. Width, 21¾"; rear panel space, 15¾" x 19"; front vertical panel space, 3½" x 19" (CSC-201); bottom panel space, 15¾" x 19" (CSC-202). Top, cross piece and base in light gray; rear and side panels in smoke blue. Available in all Premier standard colors.

Premier No.	Size, Inches D.	H.	Sloped Panel Space	Slope From Vert.	Shpg. Wt., Lbs.	Net Each▲
CSC-201	18	18½	12¼ x 19	30°	35	$ 99.87
CSC-202	18⅞	18⅞	17½ x 19	25°	40	109.01

PANELS—19" WIDE

GRILLE PANELS

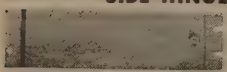


Made of No. 12 gauge steel with ⅜" square perforations. Finished in light gray.

Premier No.	Grille Size	Height	Shpg. Wt., Lbs.	Net Ea.▲
GRP-601	3½" x 13⅜"	5¼"	2	$ 8.84
GRP-602	3½" x 13⅜"	7"	2	10.23
GRP-603	5½" x 13⅜"	8¾"	2½	12.58
GRP-604	3½" x 13⅜"*	8¾"	2½	11.91
GRP-605	7½" x 13⅜"	10½"	2½	14.25
GRP-606	5½" x 13⅜"*	10½"	2½	13.46
GRP-607	7½" x 13⅜"*	12½"	3	15.53

*Allows 3½" space at bottom for chassis mounting.

SIDE HINGED DOOR PANELS



Used for left or right hand opening. Supplied with a quick turn fastener. Full ht. piano hinge welded to panel.

Premier No.	Height	Net Ea.▲	Premier No.	Height	Net Ea.▲
SHP-319	3½"	$12.46	SHP-1019	10½"	$18.06
SHP-519	5¼"	13.91	SHP-1219	12¼"	19.73
SHP-719	7"	15.35	SHP-1419	14"	20.81
SHP-819	8¾"	16.01	SHP-2119	21"	26.43

COMPACT CABINETS

Body of 20 gauge steel with .064 aluminum front panel. All have rounded corners on front and rear of top, recessed handle, four rubber feet, and perforated sides. Panel fits into ½" recess. With assembly hardware. Smoke blue and light gray finish.

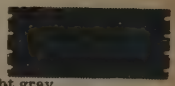


Premier No.	Size, Inches D. x W. x H.	Use Chassis	Wt., Lbs.	Net Each▲
CC-2000	8 x 6½ x 8	ACH-426	4	$23.30
CC-2001	8 x 8½ x 8	ACH-403	5	25.70
CC-2002	8 x 10½ x 8	ACH-404	6	26.84
CC-2003	12 x 8½ x 9	ACH-405	7	30.46
CC-2004	18 x 11½ x 11	ACH-415	10	38.54
CC-2005	18 x 14½ x 12	ACH-423	11	45.25

RACK PANELS

19" WIDE

Notched to EIA standards and will fit any rack with multiple ⅝"–⅝"–½" or 1¼"–½" spacings. All panels have closed slots for rigidity. Panels cut ½" less than height shown. Made of #12 gauge (.104) cold rolled steel or ⅛" th. alum., 5005-H36 alloy. Light gray.



ALUMINUM Premier No.	Wt., Lbs.	Net Each▲	Height	STEEL Premier No.	Wt., Lbs.	Net Each▲
ARP-119	½	$ 4.58	1¾"	RP-119	1	$ 5.04
ARP-319	1	6.12	3½"	RP-319	2	5.86
ARP-519	1½	7.86	5¼"	RP-519	3	6.70
ARP-719	2	9.72	7"	RP-719	4	7.56
ARP-819	2½	11.44	8¾"	RP-819	5½	18.63
ARP-1019	3	12.32	10½"	RP-1019	6½	9.68
ARP-1219	3½	14.07	12¼"	RP-1219	7½	10.88
ARP-1419	4	15.75	14"	RP-1419	8¼	12.09
ARP-1519	4	17.47	15¾"	RP-1519	9	13.30
ARP-1719	4¾	19.63	17½"	RP-1719	10½	14.91
ARP-1919	5	21.79	19¼"	RP-1919	12	17.63
ARP-2119	6	23.72	21"	RP-2119	12½	18.26
ARP-2619	7½	30.09	26¼"	RP-2619	15½	22.93
ARP-3119	8½	36.02	31½"	RP-3119	19	27.19
ARP-3519	10	40.77	35"	RP-3519	22	30.93

MASKED ALUMINUM PANELS—19" WIDE

Made of bright natural aluminum covered on both sides with special self-adhesive paper. Drilling or milling can be done on paper in place, affording complete damage protection. Paper is removed simply by peeling.

⅛" Thick Premier No.	Shpg. Lbs.	Net Each▲	Height	¼" Thick Premier No.	Shpg. Lbs.	Net Each▲
MAP-119	½	$ 2.86	1¾	MAP-119-36	¾	$ 5.02
MAP-319	1	4.46	3½	MAP-319-36	1½	6.86
MAP-519	1½	6.12	5¼	MAP-519-36	2½	9.10
MAP-719	2	8.21	7	MAP-719-36	3	11.89
MAP-819	2½	9.77	8¾	MAP-819-36	3¾	14.19
MAP-1019	3	11.21	10½	MAP-1019-36	4½	16.43
MAP-1219	3½	12.77	12¼	MAP-1219-36	5	19.31
MAP-1419	4	14.88	14	MAP-1419-36	6	23.01
MAP-1519	4	16.70	15¾	MAP-1519-36	6	25.45
MAP-1719	4¾	18.79	17½	MAP-1719-36	7	28.25
MAP-1919	5	21.18	19¼	MAP-1919-36	8½	30.82
MAP-2119	6	23.09	21	MAP-2119-36	9	33.76
MAP-2619	7½	30.11	26¼	MAP-2619-36	11½	43.42
MAP-3119	8½	34.91	31½	MAP-3119-36	13½	49.91
MAP-3519	10	43.47	35	MAP-3519-36	15	61.61

19" FORMED PANELS

Blank or louvered panels of one-piece 16 gauge steel with edges formed for ¼" depth. Each panel has only 2 mounting holes on each side. **Finish:** Light gray.

Premier Number	Height, Inches	Type	Shpg. Wt., Lbs.	Net Each▲
FP-119	1¾	Blank	1½	$ 4.91
FP-319	3½	Blank	2	5.87
FP-519	5¼	Blank	2½	6.14
FP-719	7	Blank	3	7.02
FP-819	8¾	Blank	4	7.77
FP-1019	10½	Blank	5	7.72
FP-1219	12¼	Blank	6	8.88
FP-1419	14	Blank	6½	9.42
FP-1519	15¾	Blank	7	11.26
FP-1719	17½	Blank	7½	11.82
FP-1919	19¼	Blank	8	13.21
FP-2119	21	Blank	9	13.75
FP-2619	26¼	Blank	11	18.82
FP-2819	28	Blank	12	19.49
FP-4219	42	Blank	18	27.51
FPL-719	7	Louvered	3	10.30
FPL-819	8¾	Louvered	4	12.39
FPL-1019	10½	Louvered	5	12.11
FPL-1219	12¼	Louvered	6	14.14
FPL-1419	14	Louvered	6½	14.68
FPL-1719	17½	Louvered	7½	17.96
FPL-2119	21	Louvered	9	20.77
FPL-2619	26¼	Louvered	11	26.72
FPL-2819	28	Louvered	12	27.39
FPL-4219	42	Louvered	18	45.05

▲See Discount Schedule on another PREMIER Page.

Premier Relay Racks

FOR STANDARD 19" RACK PANELS (KNOCKED DOWN)



Rounded Series R

22" WIDE X 18" DEEP

Rounded R Series with front vertical rounded corners. Rigidly constructed of #16 gauge steel. Panel mounting angles are #12 gauge steel welded at front of cabinet to form a 3/16" panel recess. Drilled and tapped holes for 10-32 screws on EIA spacing. Panels fit into a 5/16" recess so that the edges are not exposed. Rear doors are hung on sturdy slip-jointed hinges, and closed by a chrome handle. Locking handle with two keys available at additional cost. Holes in bottom accommodate casters. Cabinets finished in smoke blue. Racks are shipped knocked down with all necessary bolts for easy assembly.

Premier No.	Size, Inches: Overall Height	Size, Inches: Panel Space	Shpg. Wt., Lbs.	Net Each▲
R-3619	41 7/8	36 3/4	80	$140.48
R-4219	47 7/8	42	90	153.81
R-6119	66 1/2	61 1/4	120	182.82
R-7719	82 1/8	77	140	214.69

RELAY RACKS

CHANNEL TYPE

Made of #12 ga. steel and finished in smoke blue.



RR-800

Premier No.	Size, Inches: H.	W.	D.	Panel Space, Inches	Shpg. Wt., Lbs.	Net Each▲
RR-800	39 1/4	20	18 1/4	36 3/4 x 19	40	$63.94
RR-801	74 1/4	20	20 1/8	71 3/4 x 19	55	84.44
RR-802	79 1/2	20	20 1/8	77 x 19	60	94.67

TABLE TYPE

Made of #16 gauge steel; smoke blue finish.



TR

Premier No.	Size, Inches: H. x W. x D.	Panel Space	Wt., Lbs.	Net Each▲
TR-2119	25 x 21 x 12	21	17	$24.38
TR-2819	32 x 21 x 12	28	20	29.40

DELUXE CHANNEL TYPE (NOT ILLUS.)

Similar to RR-800 Series, but have smoke blue finish and uprights are 8 1/4" deep. Panels fit into 1/2" recess; either flat or formed panels may be used. Top is ventilated by means of grille. Racks can be bolted side by side. Vertical members and top crosspiece are welded together. No projecting screw heads. Holes in base accommodate Premier No. CA-5 casters.

FOR 19" WIDE PANELS

Premier No.	Size, Inches: H.	W.	Panel Space, Inches	Shpg. Wt., Lbs.	Net Each▲
RR-2164	64 1/2	21 1/4	61 1/4 x 19	85	$125.84
RR-2173	73 1/4	21 1/4	70 x 19	90	132.88
RR-2180	80 1/4	21 1/4	77 x 19	95	139.38

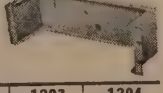
FOR 24" WIDE PANELS

RR-2664	64 1/2	26 1/4	61 1/4 x 24	100	$136.29
RR-2673	73 1/4	26 1/4	70 x 24	105	142.79
RR-2680	80 1/4	26 1/4	77 x 24	105	149.28

ALUMINUM VERTICAL PANEL CHASSIS

TO FIT 19" STANDARD RACKS

Made of 14 gauge (.064) aluminum. Flanges are notched for standard rack mounting. All chassis depths are 5 1/4". Gussets are spot welded in each corner for greater strength. Etched finish.



No. ACH-	-1200	-1201	-1202	-1203	-1204
Height, In.	1 3/4	3 1/2	5 1/4	7	8 3/4
Shpg. Wt., Lbs.	3/4	1 3/4	1 1/2	2	2 1/4
Net Each*	$6.09	$6.95	$7.84	$8.70	$9.86

DESK PANELS



16 gauge steel bolted to standard 10 1/2" x 19" panel. Front corners rounded. 22" wide. Shipped knocked down. Light gray finish.

Premier No. DP-1016—16" deep. Shpg. Wt., 20 lbs. Net. **$40.04▲**
Premier No. DP-1020—20" deep. Shpg. Wt., 22 lbs. Net. **41.21▲**

FRONT DOORS

TO FIT STANDARD 19" DESK RACK CABINETS AND CABINET RELAY RACKS

Constructed of one piece of 16 gauge steel. Cylinder lock and angle bracket incl. All necessary bolts included for easy assembly. 20 1/2" wide x 1 1/4" deep. Smoke blue.



Prem. No.	Door Ht.	Shpg. Lbs.	Net Each▲	Prem. No.	Door Ht.	Shpg. Lbs.	Net Each▲
FD-300	25 1/4"	10	$38.08	FD-306	21"	9	$35.59
FD-301	31 1/2"	11	42.79	FD-310	36 7/8"	13	56.74
FD-302	36"	12	46.61	FD-311	42 1/8"	15	62.99
FD-303	12 1/2"	6	29.42	FD-312	61 3/8"	20	73.40
FD-304	14"	7	31.04	FD-313	77 1/8"	24	84.06
FD-305	17 1/2"	8	33.54				

"S" SERIES SHELVES

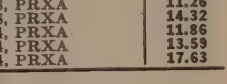


- Shelf and chassis support angles in position.
- No. 16 gauge steel.
- Light gray finish.

Premier No.	Depth x Width, Inches	To Fit Frames W. x D., Inches	Net Each▲
S-22-22	20 3/8 x 17 1/2	22 x 22, FA	$11.14
S-27-22	20 3/8 x 22 1/2	27 x 22, FA	12.80
S-22-255	23 1/8 x 17 1/2	22 x 25 1/2, FA	12.49
S-27-255	23 1/8 x 22 1/2	27 x 25 1/2, FA	14.86
S-22-18	16 3/8 x 17 1/2	22 x 18, PRXA	9.54
S-27-18	16 3/8 x 22 1/2	27 x 18, PRXA	11.26
S-33-18	16 3/8 x 28 1/2	33 x 18, PRXA	14.32
S-22-24	22 3/8 x 17 1/2	22 x 24, PRXA	11.86
S-27-24	22 3/8 x 22 1/2	27 x 24, PRXA	13.59
S-33-24	22 3/8 x 28 1/2	33 x 24, PRXA	17.63

CHASSIS SUPPORT ANGLES

No. 12 gauge steel. Accommodates shelf (S series). Mounts to tapped holes on side legs of panel mounting angles of FA and PRXA series. Light gray finish.



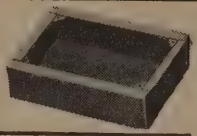
Premier No.	Length, In.	To Fit Frames	Net/ Pair▲
CSA-16	14 1/8	18" d. FDX, RMX	$ 8.88
CSA-18	16 3/8	18" deep PRXA	9.60
CSA-22	20 1/8	22" deep FA	11.02
CSA-24	22 1/8	24" deep PRXA	11.78
CSA-255	23 3/8	25 1/2" deep FA	12.58

▲See Discount Schedule on another PREMIER page.

Premier Chassis and Cabinets

BLANK CHASSIS

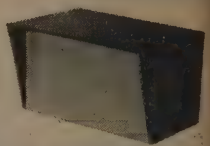
Constructed from one piece of #18 ga., aluminum, except those marked **, which are #14 ga. Gussets are spot welded to bottom flanges for additional strength. Flanges are flanged in on four sides and punched for bottom plates.



Aluminum Chassis

Premier No.	Size, Inches D. x W. x H.	Weight, Lbs.	Net Each▲
ACH-400	5½ x 9½ x 1½	½	$ 4.73
ACH-401	5 x 10 x 3	¾	5.57
ACH-402	6 x 14 x 3	1	6.42
ACH-403	7 x 7 x 2	½	4.92
ACH-404	7 x 9 x 2	½	5.16
ACH-405	7 x 11 x 2	¾	5.48
ACH-406	7 x 13 x 2	¾	5.78
ACH-407	7 x 15 x 3	1	7.72
ACH-408	4 x 17 x 3	1	6.74
ACH-409	7 x 17 x 3	1½	7.89
ACH-410	8 x 17 x 2	1⅛	7.34
ACH-411	8 x 17 x 3	1½	8.19
ACH-412	10 x 12 x 3	1¼	7.77
ACH-413	10 x 14 x 3	1¼	8.21
ACH-414	10 x 17 x 2	1¼	7.92
ACH-415**	10 x 17 x 3	1⅞	11.30
ACH-416**	10 x 17 x 4	2	13.57
ACH-417**	11 x 17 x 2	1¾	10.51
ACH-418**	11 x 17 x 3	2	12.27
ACH-419**	12 x 17 x 2	1⅞	11.37
ACH-420**	12 x 17 x 3	2⅛	12.82
ACH-421**	12 x 17 x 4	2⅞	15.02
ACH-422**	13 x 17 x 2	1⅞	11.70
ACH-423**	13 x 17 x 3	2⅛	13.49
ACH-424**	13 x 17 x 4	2½	15.77
ACH-425	7 x 11 x 3	⅞	6.20
ACH-426	5 x 7 x 2	¼	4.83
ACH-427	8½ x 15 x 3	1¼	7.89
ACH-428	5 x 7 x 3	¼	5.30
ACH-429	5 x 13 x 3	¼	6.10
ACH-430	8 x 12 x 3	1	7.19
ACH-431	4 x 6 x 2	⅛	4.47
ACH-432	4 x 6 x 3	⅛	5.03
ACH-433	7 x 12 x 3	⅞	6.94
ACH-434	6 x 17 x 3	1	7.56
ACH-435**	10 x 23 x 3	2½	13.84
ACH-436	4 x 6 x 1½	¼	4.24
ACH-437	4 x 8 x 2	⅜	4.68
ACH-438**	17 x 17 x 4	3	17.99
ACH-441	8 x 10 x 2½	1	6.47

SLOPING COMPACT CASES



Made of two pieces of 20 ga. steel. Top extends beyond front panel. Supplied with necessary screws for assembly. Finished in 2-tone metallic: Outer unit, smoke blue; inner unit, light gray.

Premier No.	Overall Size, In. H. x W. x D.	Net Each▲
SCC-3000	6 x 10 x 7	$15.65
SCC-3001	7 x 12 x 8	17.79
SCC-3002	3 x 8 x 5	13.87
SCC-3003	5 x 5 x 5	14.64

CHASSIS MOUNTING BRACKETS

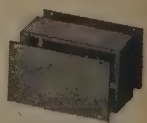


Light gray finish 16 ga. steel.

Premier No.	For	Wt., Lbs.	Net/ Pair▲
CB-78*	8" Chassis	1½	$5.95
CB-710*	10" Chassis	1¾	6.44
CB-711*	11" Chassis	2	6.77
CB-712*	12" Chassis	2⅛	7.14
CB-713*	13" Chassis	2¼	7.24
CB-717*	17" Chassis	3	8.41
CB-810†	10" Chassis	2⅜	7.34
CB-813†	13" Chassis	3	8.01

Notched for: *3" chassis; †4" chassis.

UTILITY CASES



With flanged edges, spot-welded corners, two removable flat covers. Gray hammertone finish #20 ga. sheet steel or #16 ga. aluminum cases.

ALUMINUM MINIATURE CASES



A two-piece case made of No. 16 gauge (.051) aluminum. Natural aluminum finish or light gray. *18 ga. (.040).

Aluminum Finish		Gray Ham. Finish		Size, Inches L. x W. x H.	Shp. Wt., Lbs.
Premier No.	Net Each▲	Premier No.	Net Each▲		
AMC-1000*	$3.64	PMC-1000*	$4.41	2¼ x 2⅛ x 1⅝	¼
AMC-1001*	3.73	PMC-1001*	4.50	3¼ x 2⅛ x 1⅝	¼
AMC-1002*	3.81	PMC-1002*	4.62	4 x 2⅛ x 1⅝	¼
AMC-1003	4.13	PMC-1003	5.00	4 x 2¾ x 2¼	½
AMC-1005	4.60	PMC-1005	5.99	5 x 4 x 3	½
AMC-1006	3.88	PMC-1006	5.57	5¼ x 3 x 2⅛	1
AMC-1007	5.07	PMC-1007	6.76	6 x 5 x 4	¾
AMC-1008	4.98	PMC-1008	6.67	7 x 5 x 3	1⅛
AMC-1009	6.05	PMC-1009	8.04	8 x 6 x 3½	1½
AMC-1010	6.82	PMC-1010	8.98	10 x 6 x 3½	1¾
AMC-1011	7.99	PMC-1011	11.00	12 x 7 x 4	2
AMC-1012	9.20	PMC-1012	12.64	17 x 5 x 4	½
AMC-1013	4.57	PMC-1013	5.78	10 x 2 x 1⅝	¼
AMC-1014	5.23	PMC-1014	7.22	12 x 2½ x 2¼	½
AMC-1015	3.41	PMC-1015	5.36	4 x 2 x 2¾	⅜
AMC-1016	3.25	PMC-1016	5.16	4¼ x 2¼ x 1½	¼

ALUMINUM CASES

Natural Aluminum		Size, In. W. x L. x H.	Wt., Lbs.	Gray Hammertone	
Premier No.	Net Each▲			Premier No.	Net Each▲
AC-442	$ 5.75	4 x 4 x 2	½	PAC-442	$ 7.59
AC-453	6.22	4 x 5 x 3	¾	PAC-453	8.06
AC-564	7.06	5 x 6 x 4	1	PAC-564	8.90
AC-596	8.41	5 x 9 x 6	1½	PAC-596	10.65
AC-666	7.77	6 x 6 x 6	1½	PAC-666	10.00
AC-695	8.43	6 x 9 x 5	1½	PAC-695	10.66
AC-1276	11.60	12 x 7 x 6	2½	PAC-1276	14.68
AC-1597	15.33	15 x 9 x 7	3½	PAC-1597	19.31

SLOPING FRONT CABINETS

Smoke blue #20 ga. steel.



Premier No.	Size, Inches H. x W. x D.	Wt., Lbs.	Net Each▲
SFC-500	8 x 8⅛ x 8	6	$19.86
SFC-501	8 x 10⅛ x 8	7	22.20
SFC-502	8 x 14⅛ x 8	8	24.14
SFC-503	9 x 18⅛ x 8	10	27.18
SFC-504	12 x 18⅛ x 12	14	31.15

▲INDUSTRIAL DISCOUNTS

Minimum order, $40.00.

Invoice Value	Discount
$ 40.00 to $ 750.00	Net
750.01 to 1500.00	4%
1500.01 to 3000.00	8%
3000.01 to 6000.00	12%
6000.01 to 10000.00	15%

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.

BB SERIES 100-LB. SLIDES



Features exclusive Quick Disconnect for immediate chassis removal; 5/16" horizontal side space adjustable ±1/16"; 1 5/8" vertical side space. Uses stainless steel ball bearings, will carry 100 lbs. fully extended; locks in open position. Three telescoping anodized aluminum members; full accessibility for servicing. Mounts to tapped holes of front and rear panel mounting angles. Simple adjustability of chassis slide assembly from outside of frame. Supplied with all hardware.

Premier No.	Slide Length	Travel Length	Depth	Net per Pair▲
BB-100-16*	16"	15"	18"	$131.48
BB-100-20	20"	19"	22"	139.37
BB-100-22*	22"	21"	24"	143.40
BB-100-24	24"	23"	25½"	147.44

*Use slide adapter kit SAK-35.

SFE SERIES THIN DRAWER SLIDES

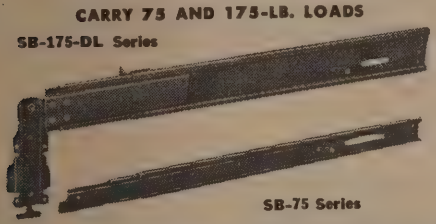
Made of cold rolled steel, zinc plated, with clear iridite track, outer and intermediate channels. Requires ½" mounting space on each side; positive mechanical stop prevents slide from being overextended. With large nylon rollers and steel balls.

Premier No.	Slide Length	Travel Length	Net per Pair▲
SFE-100-14	14"	14"	$14.20
SFE-100-16	16"	16"	14.98
SFE-100-20	20"	20"	16.44
SFE-100-22	22"	22"	17.24

SOLID BEARING SLIDES

CARRY 75 AND 175-LB. LOADS

SB-175-DL Series



SB-75 Series

Made from high strength cold rolled steel, zinc plated, chromate treated, coated with molybdenum disulfide lubricant; withstands 100 hours of salt spray. Tilt and non-tilt models; exclusive Quick Disconnect for immediate removal of chassis. Three telescoping members, full accessibility for servicing, mounts standard 17" wide chassis. Horizontal side space: SB-75 Series, .386", adjustable ±1/32"; SB-175 Series, .398", adjustable ±1/32". SB-175-DL Series slides have detent locks that allow chassis to be tilted up or down and locked at 90° for servicing.

Premier No.	Load Rating	Slide Length	Travel Length	Depth	Net per Pair▲
SB-75-14*	75 lbs.	14"	14 1/16"	15 1/4"	$33.31
SB-75-16*	75 lbs.	16"	14 1/16"	18"	33.68
SB-75-20	75 lbs.	20"	18 1/16"	22"	34.22
SB-75-22*	75 lbs.	22"	22 1/16"	24"	35.69
SB-75-24	75 lbs.	24"	22 1/16"	25 1/16"	37.59
SB-175-14*	175 lbs.	14"	14 1/16"	15 1/4"	65.73
SB-175-16*	175 lbs.	16"	18 1/16"	18"	66.72
SB-175-20	175 lbs.	20"	22 1/16"	22"	67.35
SB-175-22*	175 lbs.	22"	24"	24"	69.32
SB-175-24	175 lbs.	24"	26 1/16"	25 1/16"	70.47
SB-175-DL-14*	175 lbs.	14"	14 1/16"	15 1/4"	64.22
SB-175-DL-16*	175 lbs.	16"	18 1/16"	18"	65.26
SB-175-DL-20	175 lbs.	20"	22 1/16"	22"	67.92
SB-175-DL-22*	175 lbs.	22"	26 1/16"	24"	69.21
SB-175-DL-24	175 lbs.	24"	26 1/16"	26 1/16"	70.60

*Use slide adapter kit, No. SAK-35, for R, DCR, DRK, FXR and DR.

SAK-35 SLIDE ADAPTER KIT



Required for rear mounting on R, FXR, DR, DCR, and DRK racks. Mounts to inside rear flange by drilling four holes. Tapped 10-32 on EIA (3/8"–5/8"–1/2") spacings. No. 12 gauge steel; smoke blue finish. Kit includes 2 brackets, four 10-32 screws and keps.

Premier No. SAK-35—Net Each. **$5.92▲**

▲See Discount Schedule on another PREMIER Page.

50-LB. THREE PIECE SLIDES

- Ball bearings and nylon rollers.
- Positive mechanical stop.
- Carries 50 lbs. fully extended.
- Instant disconnect.
- Side mounted—only ½" width required.
- CR steel, zinc-plated and clear iridite.

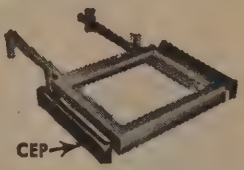
Premier Number	Slide Length and Extension	Net per Pair▲
LFE-50-14	14"	$10.76
LFE-50-16	16"	11.35
LFE-50-20	20"	12.25
LFE-50-22	22"	12.97

WORK SHELVES AND DRAWERS

WRITING WORK SHELF

FOR CPF, FA AND FS FRAMES

- Made of No. 16 gauge steel.
- Tops, front and rear, are rounded.
- Shipped knocked down.
- Finished in smoke blue.
- Supplied with 3 1/16" x 19" formed panel.
- Comes complete with channels and brackets for mounting to inside of frames.



FOR SINGLE OR MULTIPLE INSTALLATION 22" WIDE, 3" HIGH

Top Panel Space, In.	Depth, In.	For 22" d. Frames: Premier No. WW-	Shpg. Lbs.	Net Each▲	For 25½" d. Frames: Premier No. WW-	Shpg. Lbs.	Net Each▲
10 1/16 x 19	15	15-22	11	$61.53	15-255	12	$62.19
14 x 19	18 1/16	18-22	12	63.21	18-255	13	63.86
17 1/16 x 19	22	22-22	13	68.46	22-255	14	70.81

END PANELS FOR WRITING WORK SHELF

Ball cornered. Fits writing work shelf by two captive screws. One piece of No. 18 gauge steel finished in smoke blue.

Premier No.	Used With	Shpg. Lbs.	Net Ea.▲
CEP-15	WW-15-22, 15-255	1 1/16	$13.73
CEP-18	WW-18-22, 18-255	2	13.98
CEP-22	WW-22-22, 22-255	2 1/16	14.22

FORMICA WRITING PANELS

Gray linen weave pattern formica is bonded to plywood as top surface. Unfinished formica bonded to bottom surface. 19" x 1/2".

Premier Number	Panel Space, Inches	Fits Into	Net Each▲
FWP-1019	10 1/16 x 19	WW-15-22 and WW-15-255	$16.04
FWP-1419	14 x 19	WW-18-22 and WW-18-255	17.24
FWP-1719	17 1/16 x 19	WW-22-22, WW-22-255, WTO-22-22 and top panel of CPF-101 and CPF-102	18.96

SLIDING DRAWERS AND SHELF



Made of No. 16 gauge steel. Mounted on suspension slides, which sustain 46 lbs. Drawer (Fig. A) extends 16 in. from front. Fits CPF Series, FS Series, FA and 24 in. deep PRXA Series (when used with other formed panels). Sliding shelf (Fig. B) with gray linen-weave formica (2-C-1) on top surface. Supplied with brackets for mounting to tapped holes of panel mounting angles. Attractive, chrome plated handle; light gray finish. Shipped knocked down, with all hardware. For 19-inches wide panel space.

SLIDING DRAWERS (FIG. A)

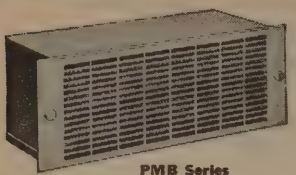
Premier No.	Panel Size, In.	Drawer Size, W. x D. x H., In.	Shpg. Wt.	Net Each▲
D-1916	10 3/16 x 18 7/16	16 1/16 x 16 x 6	23 lbs.	$53.28
D-2016	6 7/16 x 18 7/16	16 1/16 x 16 x 6	22 lbs.	52.17
D-2316	3 3/16 x 18 7/16	16 1/16 x 16 x 2 11/16	16 lbs.	47.90

SLIDING SHELF (FIG. B)

Premier No.	Panel Size, In.	Shelf Size, In.	Shpg. Wt.	Net Each▲
RDS-319-22	3 3/16 x 18 7/16	16 1/16 x 16 1/16	20 lbs.	$66.41

Premier Blowers and Fans

PREM-O-KOOL PANEL MOUNTED BLOWERS
FOR 19" WIDE PANEL SPACE



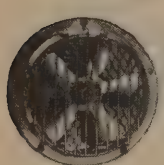
PMB Series

- Permanently lubricated ball bearing motors.
- Permanent type washable filter—easily removable from front.
- Low noise level with minimum of vibration.
- Supplied with 3'6" cord and molded male plug plus two captive thumb nuts for grille.
- Standard EIA notching.
- Motors are 115 V 50/60 Hz, single phase AC.
- Housing and grille made of cold rolled steel and chrome finish.
- Grille finished to match color of Premier cabinets or frames at no additional cost.

Units available to fit standard 24" wide panel space. Prices on request.

Premier No.	CFM at 0" S.P.	Panel Ht.	Filter Size, Inches	Enclosure Depth	Overall Depth	Motor RPM	Motor Watts	Motor A	Motor Type	Shpg. Wt., Lbs.	Net Each▲
PMB-5-150	150	5¼"	16⅝ x 4⅞ x ½	6¼"	7"	3,000	120	1.5	Shaded pole	14	$163.20
PMB-5-300	300	5¼"	16⅝ x 4⅞ x ½	6¼"	7"	3,200	86	.9	Split capacitor	15	188.16
PMB-7-360	360	7"	16⅝ x 6¾ x ½	8¼"	10"	1,500	82	1.1	Shaded pole	24	230.27
PMB-8-525	525	8¾"	16⅝ x 8⅜ x ½	10"	11⅝"	1,500	180	1.9	Split capacitor	26	279.09
PMB-10-820	820	10½"	16⅝ x 10⅛ x ½	11½"	13"	1,500	275	2.8	Split capacitor	35	313.19

PREM-O-KOOL EXHAUST AND INTAKE FANS



EF Series

- Minimum space required.
- Supplied with 18" lead.
- Fan and motor assembly shock mounted for minimum noise and vibration.
- Permanently lubricated ball bearing, shaded pole motors with low temperature rise.
- Easily interchangeable accessories for flexibility of mounting in cabinets.
- Cut-out and mounting holes for fans can be provided on any Premier rack or cabinet at slight additional cost.



PREMIER CABINETS AND RACKS

FA, PRXA, RMX, R and TVA models may be supplied with one round and 5 mounting holes to accommodate exhaust and intake fans at additional cost.



IF Series

EXHAUST FANS			INTAKE FANS						
Premier No.	CFM	Net Each▲	Premier No.	CFM	Net Each▲	Motor Watts	RPM	Fan Blade Dia., In.	Hole Dia. Req'd., In.
EF-165	165	$ 84.48	IF-300	300	$ 81.58	65	3000	6½	7⅜
EF-220	220	78.79	IF-360	360	90.95	46	1460	8	9¼
EF-300	300	81.58	IF-740	740	102.39	105	1560	10	10⅝
EF-400	400	90.95							
EF-750	750	102.39							

ACCESSORIES FOR EXHAUST FANS

GUARDS

Premier No.	Used with Fan	Dia., In.	Depth, In.	Net Each▲
GU-6	EF165, 220, 300	6¾	1⅛	$ 8.72
GU-8	EF400	8½	2¼	9.53
GU-10	EF750	10½	2⅝	11.28

GRILLES

GR-6	EF165, 220, 300	8½	.....	$ 8.72
GR-8	EF400	10½	.....	9.53
GR-10	EF750	12½	.....	11.28

SLEEVES

SL-6	EF165, 220, 300	8½	1¾	$20.06
SL-8	EF400	10½	2	21.91
SL-10	EF750	12½	2⅜	26.42

ACCESSORIES FOR INTAKE FANS

FILTERS

Permanent washable type, ½" thick.

Premier No.	Used with Fan	Size	Net Each▲
FLT-6	IF300	8¾" sq.	$10.79
FLT-8	IF360	10¾" sq.	11.60
FLT-10	IF740	12¾" sq.	13.56

FILTER HOLDERS

Premier No.	Used with Fan	Size	Depth, In.	Net Each▲
FH-6	IF300	8¼" sq.	¼	$19.45
FH-8	IF360	10¼" sq.	¼	21.07
FH-10	IF740	12¼" sq.	⅛	25.01

▲See Discount Schedule on another PREMIER Page.

SELF-SPRAYING LACQUER

AVAILABLE IN 3 COLORS IN 12 OZ. CANS



Premier No.	To Match	Net Ea.▲
GHL-102	Premier gray hammertone	$5.54

HEAVY DUTY OUTLET BOXES

With 6-Ft. Neoprene Cord Set and Molded Plug; Fully Wired and Ready for Use



Completely wired and ready to use outlet boxes for work benches and internal rack mounting; mount to crosspieces on Premier No. PRXA and FA frames. Have built-in circuit breaker, U-type ground outlets, and soldered connections. Mounting centers, 6". For heavy-duty applications. Rated at 15 amps, 130 volts continuous duty. Supplied with 6-ft. neoprene cord set with molded plug. Steel case finished in gray hammertone.

Premier No.	Size, Inches L. x W. x D.	No. of Outlets	Fit Racks With	Net Each▲
OB-161	56¾ x 1½ x 1⅛	9	61¼" panel space ht.	$44.48
OB-170	65½ x 1½ x 1⅛	10	70" panel space ht.	46.27
OB-177	72½ x 1½ x 1⅛	11	77" panel space ht.	47.12

CABLE RETRACTOR
FOR CONTROL OF POWER SUPPLY CABLES

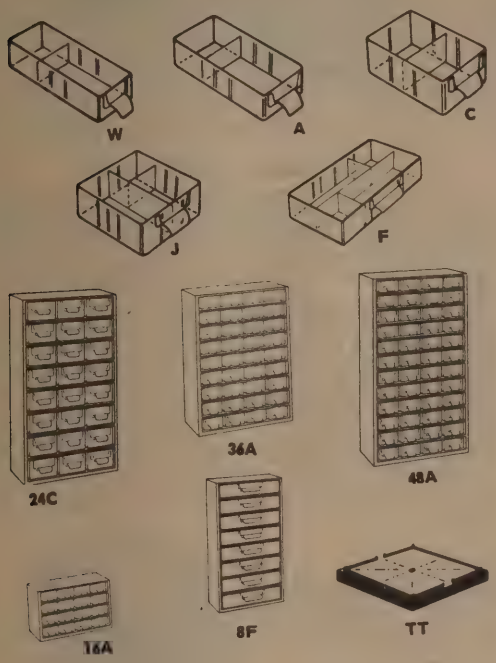


The Premier cable retractor is designed for easy and fast installation in new as well as existing equipment. It can be attached to rear of cabinet for effective control of power supply cables. As the chassis is extended, the retractor pivots and the inner ball bearing-actuated member glides out as necessary, giving smooth, stress-free motion. Built-in spring tension keeps power supply cable "jam-proof."

Premier No. PCR-316 Cable Retractor—Net Each....$31.45▲

raaco Small Parts Cabinets

Small parts cabinets allow storage in separate compartments—well organized and always at hand. System can be expanded at will—cabinets stack securely or may be fastened together, wall mounted or on turntable. Frames and shelves are strong, spot welded steel, primed and finished with blue lacquer. Guide rails prevent drawers sliding around on shelves: drawer stops prevent falling. Drawers are molded of clear polystyrene with molded handles and label slots, and partitions are provided for subdividing the drawers in many ways. The smaller boxes are ideal for carrying replacement parts in the tool box.



DRAWERS AND DIVIDERS

Standard drawers are available in 3 heights and 5 widths. Different sized drawers are available on special order. Dividers are available in 8 sizes, allowing many variations in compartment arrangements.

DRAWERS

Raaco Number	Size, mm H × W × D	User Net
W	35 × 52 × 135	$ .59
A	35 × 64 × 135	.74
C	57 × 87 × 135	1.46
J	57 × 135 × 135	2.20
F	57 × 275 × 135	3.60

DIVIDERS

Raaco Number	Size, mm H × L	No./Pkg.	User Net/Pkg.
35-52	35 × 52	48	$4.00
35-64	35 × 64	48	4.00
57-67	35 × 67	24	4.00
57-87	57 × 87	24	4.00
57-135	57 × 135	12	4.00
57-275	57 × 275	6	4.00
79-67	79 × 67	16	4.00
79-135	79 × 135	8	4.00

CABINETS

Raaco Number	Drawers No./Type	User Net
60W	60/W	$34.17
30W	30/W	18.44
48A	48/A	34.17
36A	36/A	26.30
24A	24/A	18.44
30AJF	24/A 4/J 2/F	34.17
15AJF	12/A 2/J 1/F	18.44
24C	24/C	34.17
16J	16/J	34.17
8F	8/F	34.17

TURNTABLE

All Raaco cabinets can be fitted to a turntable, which runs effortlessly on ball bearings. Ideal for the assembly table or workbench. Holds two cabinets mounted back-to-back for convenient access to twice as many components without losing valuable bench space. Mounting screws are supplied for secure fastening.

Raaco Model No. TT—User Net $4.81

FLOOR-STANDING TURNTABLE

Will hold up to 12 cabinets 60W, 48A, 30AJF or 24C. Runs smoothly on ball bearings. Stores many different types of spare parts on just 1/5 of a square meter of floor space. Available on special order only; allow 8-12 weeks for delivery.

Raaco Model FTT—User Net $146.96

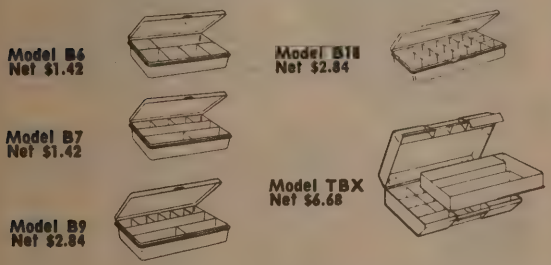
SERVICE CASES

Reinforced, black PVC plastic cases to hold storage cabinets for quick and easy carrying.

Raaco Model SC60—Will hold cabinet 30W, 24A or 15AJF. Extra plastic tray holds larger items or tools. Lockable. User Net $48.00

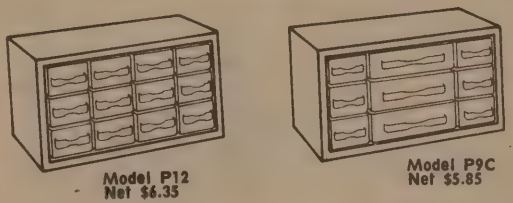
Raaco Model SC120—Will hold cabinet 60W, 48A, 30AJF or 24C. Has extra reinforcement for strength. User Net ... $60.00

COMPARTMENTED BOXES



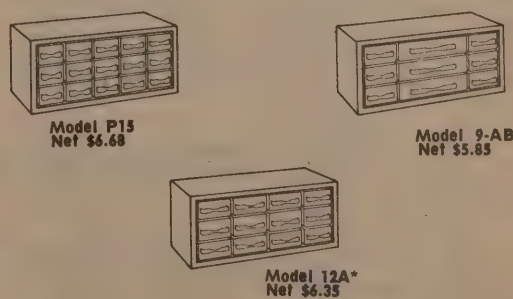
PARTS CABINETS

H: 5 5/8" × W: 9 5/8" × D: 6"



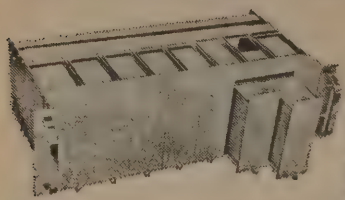
PARTS CABINETS

H: 5 5/8" × W: 12 1/4" × D: 6"



*Available on special order only; allow 8-12 weeks for delivery.

Vector Cases and Cages



CMA1A-20 Cage with added HA-12 Handles, Filler Panels and Modules

The Vector Pak system is a coordinated packaging system which provides modular cases and cages for nearly all Vector Plugbords and many industry-standard plug-in boards. Adjustable rear struts mount almost any PC connector without hole drilling or special brackets. Other sizes and cage parts are available separately—write for catalog.

Vector No. CMA3A-20 Cage—5¼″ h. x 8.9″ deep fits 19″ racks. Holds eight 2″ wide x 6½″ long x 4.6″ high modules (Vector No. EFP204A66). Net Each.....**$65.43**

Vector No. CMA4A-20 Cage—5¼″ h. x 12″ deep fits 19″ racks. Holds eight 2″ wide x 9.6″ long x 4.6″ high modules (Vector No. EFP204A97). Net Each.....**$67.19**

Vector No. CMA3A-16 Cage—Same as No. CMA3A-20, except holds ten 1.6″ wide x 6.6″ long x 4.6″ high modules (Vector No. EFP164A66). Net Each.....**$71.81**



EFP MODULES

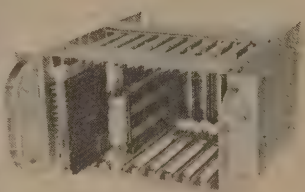
All-aluminum modules have anodized finish and have 5¼″ high front panels with thumb screw, solid rear panels for connector mounting or circuit board slotting, rear sliding side covers, and inner multiple-grooved top and bottom rails to hold 1/16″ thick circuit boards without special bracketing.

Vector No. EFP164A66 Case—Has 6 circuit board grooves spaced 0.150″ apart on top and bottom rails, holds circuit boards 4.5″ wide x 6.5″ maximum length inside. Net Each.....**$10.84**

Vector No. EFP204A66 Case—Same as No. EFP164A66, except has 9 circuit board grooves. Net Each.....**$11.15**

Vector No. EFP204A97 Case—Same as No. EFP164A66, except holds circuit boards 4.5″ wide x 9.6″ maximum length inside. Net Each.....**$12.79**

SNAP-IN CARD GUIDES/CAGES

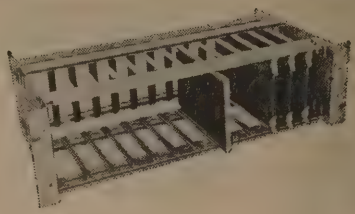


Vector "S" Series cages utilize molded snap-in nylon card guides and are available in 5¼″ high models. Besides guides, cages include 2 aluminum walls with adjustment slots for different card widths and connector lengths, heavy extruded cross members with card guide mounting holes on 0.25″ centers, connector mounting struts with mounting hardware and attaching slotted mounting brackets, permitting forward/backward connector positioning. Kits assemble quickly with provided hardware. Snap-in molded gray nylon card guides are .375″ wide and have .072″ wide by .100″ deep card slots and ferry boat tapered ramps at each end. Guides may also be mounted in sheet metal plates .050″ to .125″ thick for creating non-rack mounted card carriers. **Card Width Range:** 3″ min. to 4½″ max. **Card Length:** 6½″. **Spacing:** Any multiple of 0.25″.

Vector No.	Guides Furnished for No. of Positions	Dimensions		Net Each
		Width	Depth	
CCK-13S	21	19″	9″	$42.64
CCK-135AS	10	10¼″	9″	37.44

SNAP-IN CARD GUIDES FOR .156″ HOLES

Vector No.	Overall Length	Mounting Hole Pitch Distance	Net Each
BR20-19S	8.42″	7.5″	$0.36
BR20-17S	6.92″	6″	.36
BR20-6S	5.42″	4.5″	.33
BR20-13S	3.17″	2.25″	.29



CCK13

VECTOR-PAK CARD CAGES

19″ rack mounting cages are supplied completely assembled, ready for connectors. Models listed accommodate 1/16″ thick cards 4.5″ maximum to 3″ minimum width x 6.5″ long except CCK14 holds cards 9.6″ long. Heavy extruded aluminum cross members (T-Struts) provide strength and easy, infinitely variable connector spacing. 21 pairs of 4-40 connector mounting nuts are furnished installed.

Vector No. CCK-3 Card Cage—Has 108 grooves 0.075″ wide for 1/16″ circuit cards in extruded aluminum plates mounted top and bottom. Vertically and horizontally adjustable rear cross members have 21 pairs of 4-40 nuts in captive grooves for easy connector mounting. Net Each.....**$49.86**

Vector No. CCK-13 Card Cage—19″ wide x 5¼″ high x 8.9″ deep. Has 21 pairs of riveted anodized aluminum card guides. Net Each.....**$52.00**

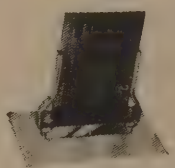
Vector No. CCK13P Card Cage—Same as No. CCK13, except with riveted ABS plastic guides. Net Each.....**$52.00**

Vector No. CCK-14P Card Cage—19″ wide x 5¼″ high x 12″ deep. Has 21 pairs of riveted card ABS plastic card guides on 0.75″ centers. Net Each.....**$59.94**

CAGE KIT

Vector No. CA52HP-89 Cage Kit—All-aluminum 19″ rack mounting unit is 5¼″ x 8.9″ deep and has 6 bracket-mounted cross members, slotted side walls, and all assembly hardware. Use for maximum flexibility in card or module cage design.
Net Each.....**$39.73**

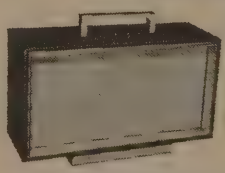
BR27 SERIES RECEPTACLE MTD. CARD GUIDES



Provides support for receptacle supported circuit boards. For plugbords with centered contacts except BR27-2 for .050″ offset contact plugbords. With mounting hardware.

Vector No.	Use With Receptacle	Net/ Pair	Vector No.	Use With Receptacle	Net/ Pair
BR27D	R644, -1	$1.64	BR27-3	R630	$2.70
BR27-1	R636	2.21	BR27-4	R644-2	2.25
BR27-2	R644, -1	1.82			

MULTI-MOD CASES



Sleek and sturdy aluminum cases have .075″ wide slots on .150″ centers across case width for screw-free mounting of circuit cards or shielding panels. Easily removable fourth side permits side cover to slide off for quick access. Clear anodized; colors available. Eight rubber feet supplied with each case.

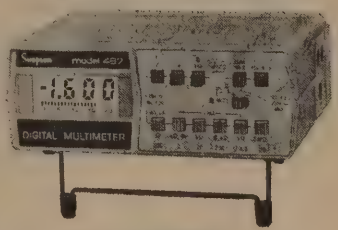
Vector No.	Size, Inches			For Circuit Card Size, In.	Net Each
	Width	Length	Height		
W16-31-31B	1.6	3.10	3.10	2.98 x 2.98	$ 6.10
W20-28-46B	2.0	2.85	4.61	2.73 x 4.50	5.94
W20-66-46B	2.0	6.61	4.61	4.50 x 6.50	7.42
W30-66-46B	3.0	6.61	4.61	4.50 x 6.50	9.04
W30-86-46B	3.0	8.61	4.61	4.50 x 8.50	10.07
W45-66-46B	4.5	6.61	4.61	4.50 x 6.50	11.80
W45-86-46B	4.5	8.61	4.61	4.50 x 8.50	13.31
W45-10-66B	4.5	10.00	4.61	4.50 x 9.88	18.17
FT-3	Rubber bumper feet (package of 8)				.97

Simpson Digital Multimeters

INSTRUMENTS THAT STAY ACCURATE

MODEL 467 DMM

3½ digit hand portable DMM with LCD digital and analog display, 50 sec pulse detection, and visible/audible indication of continuity and logic level. The model 467 combines the best features of high quality DDMs in a combination of digital and analog display to analyze both steady and pulsating signals, differential + and − peak-holding capability, and fast pulse detection and audible indication. This versatile instrument can actually replace the oscilloscope and the logic probe in many applications. In the differential peak mode, for instance, the Model 467 can make percent modulation and signal tracing measurements; in the pulse detection mode, it can give a visual and/or audible indication of pulse presence and logic states. Other standard features include: True Rms measuring capability, 0.1% basic VDC accuracy, continuity detection with both visua. and audible indications, high voltage transient projection, and excellent overload protection. The unit is also safety designed to meet UL-1244 requirements. Available in blue (model 467) or black (model 467B) (specify). Unit comes complete with 9-volt battery, test leads with screw-on alligator clips, and instruction manual.



MODEL 467

SPECIFICATIONS

DC Volts: 200 mV; 2, 20, 200, 100 V
Accuracy: ≐(1% of input ± 10 digits)
AC Volts: 200 mV; 2, 20, 200, 750 V
Accuracy: 20 to 40 Hz, ≐(1.5% of input + 5 counts); 40 Hz to 1 KHz, ≐(0.5% of input + 5 counts, to 400 Hz only over 20 V); 1 KHz to 5 KHz, ≐(0.5% of input + 5 counts, not specified over 20 V)
DC Current: 200 μA, 2, 20, 200, 200 mA
Accuracy: ≐(1% of input + 10 digits)
Resistance: 0–200 Ω, 2, 20, 200, 2000 KΩ, 20 MΩ
Accuracy: ≐(0.25% of input + 1 count, or for 20 megohm ≐1% of input + 1 count)
Temperature Coefficient: (0° C to +18° C and +28° C to +55° C). Less than 0.1 times the applicable accuracy specification per °C.

Simpson Model No. 467 (blue) and 467B (black)—Net Each..... **$257.00**
Model No. 00748 RF Probe—Net Each..... **39.75**
Model No. 00749 Hi-Voltage Probe—Net Each..... **49.25**
Model No. 00758 Temperature Probe—Net Each..... **115.75**
Model No. 153-2 AC Amp Clamp Adapter—Net Each..... **48.25**
Model No. 00043 Extra Test Leads w/Alligator Clips—Net Each..... **9.00**
Model No. 00813 Carrying Case—Net Each..... **25.50**



MODEL TS-111 VOM

Designed for railroad servicing.
Built-in pointer stop for peak current measurements.
Special "power present" warning circuit for resistance measuring.
Complete with battery, test leads, leather case and operator's manual.
Measures "ON" time of coded track signals directly in percent.
Measures AC voltage superimposed on DC track signals.

SPECIFICATIONS

DC Volts: 0 to 0.6, 3, 15, 60, 300 volts at 1000 ohms per volt sensitivity.
AC Volts: 0 to 3, 15, 150, 600 volts at 300 ohms per volt sensitivity. Will measure up to 100 VAC superimposed on up to 20% DCV.
DC Current: 0 to 15, 60, 300 mA; 0 to 1.5, 6, 30 amps.
AC Current: 0 to 3, 30 amps.
Resistance: 0 to 100, 10,000 ohms.
Accuracy: DC volts ≐2%; AC volts ≐3%; DC current ≐2%; AC current ≐3%; Pulse On ≐2%.
Pulse "ON" Time: 0 to 100%.

Simpson Model TS-111—Catalog No. 12159. Net Each..... **$310.00**

SAGER ELECTRICAL SUPPLY CO.

60 Research Road
Hingham, MA 02043
Tel.: 617-749-6700
TWX: 710-348-7648

108 N. Plains Industrial Road
Wallingford, CT 06492
Tel.: 203-265-4600

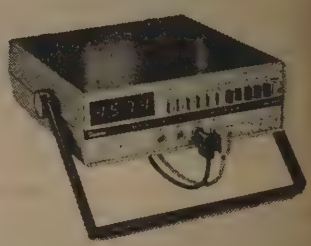
Boston Phone (617) 328-4600

Simpson Portable Digital Multimeters

INSTRUMENTS THAT STAY ACCURATE

MODEL 464 DIGITAL MULTIMETER

3½ digit, 0.43" LED readout.
0.1% Accuracy on DC Voltage ranges.
Complete with line cord, leads and manual.
Pushbutton selection of all functions and ranges.
28 ranges.
Battery or AC line operation.
LSI circuitry.



SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to .2, 2, 20, 200, 600 volts.

DC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.

AC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.

Resistance: 0 to 200, 2K, 20K, 200K, 2000K; 0 to 20 megohms.

Accuracy (+15°C to +35°C): See table below.

Simpson Model 464A Digital Multimeter—For AC line operation only. Complete with test leads, line cord and manual. Net Each..... **$290.00**

Simpson Model 464D Digital Multimeter—For AC line and battery operation. Complete with test leads, line cord and manual. Net Each..... **$338.00**



360-2 DIGITAL MULTIMETER

3½ digit, 0.43" LED readout.
29 ranges including "low power" ohms.
Analog indicator for nulls and peaks.
Analog output provision for recording.
Complete with line cord, leads and manual.
Solid-state, IC design.

SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.

DC Current: 0 to 20, 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2, 10 Amps.

AC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2, 10 Amps.

Resistance: 0 to 200, 2K ohms at low power; 0 to 20K, 200K, 2 megohms, 20 megohms.

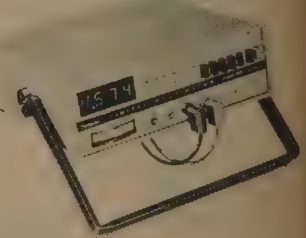
Accuracy: (+15°C to +35°C): See table below.

Simpson 360-2 Digital Multimeter—For 110 VAC operation. Net Each..... **$350.00**

Simpson 360-2 Digital Multimeter—For 220 VAC operation. Net Each..... **$350.00**

460-4 DIGITAL MULTIMETER

3½ digit, 0.43" LED readout.
AC line or battery operation.
Analog indicator with linear and dBm markings.
Digital LSI circuitry.
Complete with leads and manual.
26 ranges.



SPECIFICATIONS

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.

AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.

DC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2 Amps.

AC Current: 0 to 200 μAmps; 0 to 2, 20, 200 mAmps; 0 to 2 Amps.

Resistance: (Normal and low-power) 0 to 200, 2K, 20K, 200K, 2 megohms, 20 megohms.

Accuracy: (+15° C to + 35° C): See table below.

Simpson 460-4A Digital Multimeter—For VAC operation only. Net Each..... **$378.00**

Simpson 460-4D Digital Multimeter—For VAC and battery operation. Net Each..... **$430.00**

ACCURACIES

MODEL 464 DMM

DC Voltage: ± (0.1% of reading +1 digit).

AC Voltage: ± (0.5% of reading +2 digits) from 40 Hz to 1 kHz; ± (1.0% of reading +2 digits) from 1 kHz to 10 kHz.

DC Current: ± (0.5% of reading +1 digit), except ± (1.0% of reading + 1 digit) on 2 A and 10 A ranges.

AC Current: ± (1.5% of reading + 2 digits), except ± (2.0% of reading + 2 digits) on 2 A and 10 A ranges.

Resistance: ± (0.5% of reading + 1 digit), except ± (1.0% of reading + 1 digit) on 20 megohm ranges.

360-2 DMM

DC Voltage: ± (0.25% + 1 digit).

AC Voltage: ± (0.5% + 1 digit) from 40 Hz to 1 kHz; ± (1.0% + 1 digit) from 1 kHz to 10 kHz; ± (2.0% of reading + 2 digits) from 10 kHz to 20 kHz; except ± (5% of reading + 2 digits) on 200 V range.

DC Current: ± (0.5% + 1 digit), except ± (1.0% + 1 digit) on 2 A and 10 A ranges.

AC Current: ± (1.0% + 1 digit) from 40 Hz to 10 kHz, except ± (2% + 2 digits) on 2 A and 10 A ranges.

Resistance: ± (0.5% + 1 digit), except ± (1.0% + 2 digits) on 2 and 20 megohm ranges.

460-3 DMM

DC Voltage: ± (0.1% + 1 digit).

AC Voltage: ± (0.5% + 2 digits) from 40 Hz to 10 kHz, except 600 V range which is 40 Hz to 400 Hz; ± (1.0% + 2 digits) from 10 kHz to 20 kHz, except 600 V range which is 400 Hz to 20 kHz.

DC Current: ± (0.25% + 1 digit), except ± (1.0% + 1 digit) on 2 A and 10 A ranges.

AC Current: ± (0.7% + 2 digits), except ± (1.5% + 2 digits) on 2 A and 10 A ranges.

Resistance: ± (0.25% + 1 digit), except ± (0.5% + 2 digits) on 2 and 10 megohm ranges.

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Digital Multimeters

INSTRUMENTS THAT STAY ACCURATE



MODEL 465 AUTORANGING DIGITAL MULTIMETER

Range HOLD for repeated tests
3½ digit, 0.43″ LED readout
MOS/LSI circuitry
Automatic range selection
Pushbutton function selection
Complete with leads and manual

DC Volts: 0 to 0.2, 2, 20, 200, 1000 volts.
AC Volts: 0 to 0.2, 2, 20, 200, 600 volts.
DC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.
AC Current: 0 to 200 μA; 0 to 2, 20, 200 mA; 0 to 2, 10 amps.
Resistance (High Power): 1Ω to 2K, 20K, 200K, 20 megohms at 2.5 volts open circuit.
Resistance (Low Power): 1Ω to 2K, 20K, 200K, 2000K at 0.35 volts open circuit.
Accuracy: ±0.1% + 1 digit on DC volts; ±0.5% + 2 digits on AC volts; ±0.4% + 2 digits on resistance; ±0.25% + 1 digit on DC current; ±1% + 2 digits on AC current.

Simpson Model 465A Autoranging Digital Multimeter—For AC operation only. Complete with test leads, line cord and operator's manual. Net Each..... **$403.00**

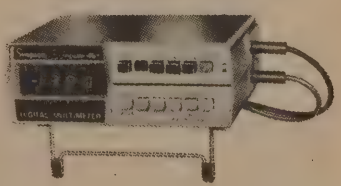
Simpson Model 465D Autoranging Digital Multimeter—For AC and battery operation. Complete with test leads, operator's manual and line cord. Less batteries. Net Each..... **$453.00**

MODELS 461 AND 462 DIGITAL AUTORANGING MULTIMETERS

Compact, portable.
3½ digit, 0.3″ LED display.
Automatic polarity and zeroing.
10 megohm input impedance.
Resolves 100 μV, 0.1 ohm, 100 nA.
Complete with nickel-cadmium batteries, battery charger/adapter, test leads and manual.
120 and 230 VAC versions available (specify when ordering).
26 ranges.
LSI circuitry.

SPECIFICATIONS

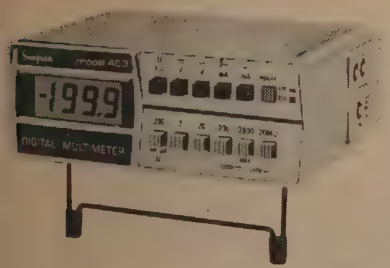
DC Volts: 0–200 mV, 0–2, 20, 200, 1000 volts.
Accuracy: Model 461, ±0.5% of reading + 1 digit; Model 462, ±0.25% + 1 digit.
AC Volts: 0–200 mV, 0–2, 20, 200, 600 volts.
Accuracy: Model 461, ±1% of reading + 2 digits; Model 462, ±0.75% + 2 digits at 50–1000 Hz; ±5% + 2 digits at 1–5 kHz.
DC Current: Model 461, 0–200 μA, 0–2, 20, 200 mA, 0–2 amps; Model 462, 0–2, 20, 200, 2000 mA.
Accuracy: Model 461, ±2% of reading + 2 digits for 0–2 amp range, ±1.5% + 2 digits for all others. Model 462, ±1.5% of reading ± 1 digit for 0–2000 mA range, ±1% + 1 digit for all others.
AC Current: Model 461, 0–200 μA, 0–2, 20, 200 mA, 0–2 amps; Model 462, 0–2, 20, 200, 2000 mA.
Accuracy: Model 461, ±2% of reading + 2 digits for 0–2 amp range, ±1.5% + 2 digits for all others; Model 462, ±2% of reading + 5 digits for 0–2000 mA range, ±1.5% + 5 digits for all others.
Resistance: Model 461, 0–200, 2K, 20K, 200K, 2000K, 20 megohms; Model 462, 0–2K, 20K, 200K, 2000K, 20 megohms.
Accuracy: ±1% of reading + 1 digit for 0–20 megohm range, ±0.5% + 1 digit for all others.
Size: 2″ h. x 5.6″ w. x 4.6″ d.
Weight: Approximately 1 lb., 8 oz. with batteries.



Simpson Model 461-2 Digital Multimeter—Catalog No. 12528. For 120 VAC operation. Net Each..... **$194.00**
Simpson Model 461-2 Digital Multimeter—Catalog No. 12529. For 230 VAC operation. Net Each..... **$194.00**
Simpson Model 462 Digital Multimeter—Catalog No. 12547. For 120 VAC operation. Net Each..... **$244.00**
Simpson Model 462 Digital Multimeter—Catalog No. 12548. For 230 VAC operation. Net Each..... **$244.00**
Simpson No. 00749—40 kV H.V. Probe. Net Each..... **49.25**
Simpson No. 00748—RF Probe. Net Each..... **39.75**
Simpson No. 00747—Carrying Case. Net Each..... **29.50**

MODEL 463 DIGITAL MULTIMETER

Compact, portable.
3½ digit, 0.5″ LCD readout
Automatic polarity and zeroing.
10 megohm input impedance.
0.2% accuracy on DC Voltage ranges.
Complete with battery, test leads, alligator clips and manual.
Pushbutton selection of all functions and ranges.
26 ranges.
LSI circuitry.
Wide, 20 kHz AC Voltage response.
Battery operated.
Low battery indication.



SPECIFICATIONS

DC Volts: 0–200 mV; 0–2, 20, 200, 1000 V.
Accuracy (+20°C to +30°C): ±0.2% of reading +1 digit.
AC Volts: 0–200 mV; 0–2, 20, 200, 750 V.
Accuracy (+20°C to +30°C): ±1.5% of reading +3 digits from 20 to 40 Hz; ±0.5% of reading +2 digits from 40 to 1000 Hz; ±1.5% of reading +3 digits from 1 to 10 kHz; ±5% of reading +5 digits from 10 to 20 kHz.
DC Current: 0–200 μA; 0–2, 20, 200, 2000 mA.
Accuracy (+20°C to +30°C): ±0.5% of reading +2 digits, except ±1% of reading +2 digits on 2000 mA range.
AC Current: 0–200 μA; 0–2, 20, 200, 2000 mA.
Accuracy (+20°C to +30°C): ±1.5% of reading +3 digits from 40 to 1000 Hz; ±5% of reading +5 digits from 1 to 5 kHz.
Resistance: 0–200, 2K, 20K, 200K, 2000K; 0–2 megohms.
Accuracy (+20°C to +30°C): ±0.25% of reading +2 digits, except ±0.75% of reading +2 digits on 20 megohm range.

Simpson Model 463 Digital Multimeter—Cat. No. 12549. Net Each.... **$200.00**
Simpson No. 00748 RF Probe—Net Each..... **39.75**
Simpson No. 00749 40 kV High Voltage Probe—Net Each..... **49.25**
Simpson No. 00814 Carrying Case—Net Each..... **27.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Portable VOM's

INSTRUMENTS THAT STAY ACCURATE



260-6XL VOM

Shock and drop resistant construction.
33 ranges including "low power" ohms.
Complete with batteries, test leads and manual.
Low-power ohms open-circuit voltage. 100 mV maximum.
Large viewing area.

SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 25, 100, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 25, 100, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to .5, 5, 50, 500 mA; 0 to 5 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −9 to +21, −1 to +29, +11 to +41, +19 to +49.
Output: 0.1 μF capacitor in series with ACV ranges thru 250 volts.
Resistance: Low-power: Rx1 (1K ohms) and Rx10 (10K ohms);
Conventional: Rx1 (1K ohms), Rx100 (100K ohms), Rx1K (1 megohm), Rx10K (10 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2.5° of arc.

Simpson 260-6XL—Catalog No. 12177. With standard scale. Net Each..... **$134.00**
Simpson 260-6XLM—Catalog No. 12186. With mirror scale. Net Each..... **139.00**
Simpson 260-6XLP—Catalog No. 12176. Same as 260-6XL but has protective overload circuit with reset button that pops out when overload is present. Net Ea.... **$183.00**
Simpson 260-6XLPM—Catalog No. 12187. With mirror scale. Net Each.... **188.00**

260-7 VOM

Same as the Model 260-6 plus new insulated panel connectors, an Off/Transit position on the function switch, doubly fused protection network and functionally engineered test leads.

Simpson Model 260-7—Catalog No. 12268. Net Each..... **$114.00**
Simpson Model 260-7M—Catalog No. 12269. With mirror scale. Net Each.. **119.00**
Simpson Model 260-7RT—Catalog No. 12272. In roll-top protective case. Net Each..... **$129.00**
Simpson Model 260-7MRT—Catalog No. 12273. With mirror scale and roll-top case. Net Each..... **$134.00**
Simpson Model 260-7P—Catalog No. 12274. With relay overload protection. Net Each..... **$162.00**
Simpson Model 260-7PM—Catalog No. 12277. With relay protection and mirror scale. Net Each..... **$167.00**
Simpson Model 260-7PRT—Catalog No. 12279. With relay protection and roll-top case. Net Each..... **$177.00**

MODEL 250 VOM

Fused input circuits.
Varistor protected movement.
Complete with test leads, batteries and manual.
For solid-state servicing.
Taut band movement.
50mV drop on DC current.



SPECIFICATIONS

DC Volts: p to .05, .25, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to .25, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 500 mA; 0 to 10 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Resistance: Rx1 (2K ohms), Rx100 (200K ohms), Rx10K (20 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2° of arc.

Simpson Model 250—Catalog No. 12158. Net Each..... **$126.00**



MODEL 255 VOM

Designed for gas and electrical appliance servicing.
Complete with test leads, batteries, thermocouple lead and manual.
Measures temperatures from +100° F to +1050° F.
22 ranges including temperature.

SPECIFICATIONS

DC Volts: 0 to .05, .25, 1, 1.5, 10, 50, 250, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 500 mA.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
Resistance: Rx1 (2K ohms), Rx100 (200 ohms), Rx10K (20 megohms).
Temperature: +100° F to 1050° F.
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2° of arc.

Simpson Model 255—Catalog No. 12155. Complete test leads, 5′ thermocouple lead and instruction manual. Net Each..... **$147.00**

MODEL 265 INDUSTRIAL VOM

AC and DC currents to 12 amperes.
Taut band movement for high resolution.
Complete with test leads, batteries and operator's manual.
Simultaneous AC voltage and current measurements.

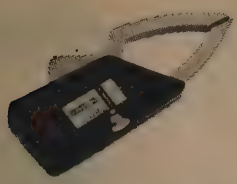


SPECIFICATIONS

DC Volts: 0 to 0.3, 3, 12, 60, 300, 600 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 3, 12, 60, 300, 600 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 60 μA; 0 to 1.2, 12, 120, 600 mA; 0 to 1.2, 12 amps.
AC Current: 0 to 120 mA, 0 to 1.2, 12 amps.
Resistance: Rx1, Rx100, Rx1K, Rx10K.
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%.

Simpson Model 265 Industrial VOM—Catalog No. 12184. Net Each..... **$205.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE



MODEL 150-2 AMP-CLAMP ADAPTER

Clamp-on type AC ammeter adapter allows measurement to be made without breaking the circuit being tested. Adapter plugs into 160, 260, 260XL, 261, 270, 250 or 255 VOM and can be used with any VOM having a 0–2.5, 0–3 or 0–5 VAC scale. Set VOM to the 2.5, 3, or 5 VAC scale. AC current ratings are: on 2.5 VAC scale, 0 to 5, 10, 25, 50, 100, and 250 amps; on 3 VAC scale, 0 to 6, 12, 30, 60, 120 and 300 amps; on 5 VAC scale, 10, 20, 50, 100, 200, and 500 amps. Accuracy, ±3% F.S.

Simpson Model 150-2 Amp-Clamp Adapter—Catalog No. 00541. Complete with test lead. Net Each..... **$48.25**

MODELS 153-2 AND 154-2 AMP-CLAMP ADAPTERS

Clamp-on type AC ammeter adapter allows measurement to be made without breaking the circuit being tested. Adapter plugs into digital multimeter. Readout is on 0.2, 2 or 20 VAC scale. Ranges are: on 0.2 VAC scale, 0–2 A; 2 VAC scale, 20 A; 20 VAC scale, 200 A. **Accuracy:** ±3% on 20 and 200 A ranges; ±4% on 2 A range.

Simpson Model 153-2 Amp-Clamp Adapter—Catalog No. 00542. For Model 461 DMM. Net Each..... **$48.25**

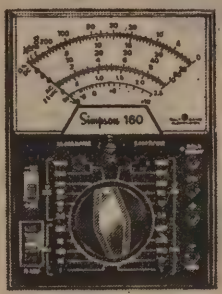
Simpson Model 154-2 Amp-Clamp Adapter—Catalog No. 00543. For Models 360-2, 460-3 and 464 DVMs. Net Each..... **$48.25**

Simpson No. 00533—Extra Test Lead. Net Each..... **4.75**

Simpson No. 00548—Carrying Case. Net Each..... **15.75**

160 HANDI-VOM

Miniature VOM is shock and drop resistant. Has self-shielding, taut band movement, varistor protected from overloads, accuracy and sensitivity of full-size VOM.



SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μA; 0 to 1, 10, 100, 250, 500 mA.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K.
Accuracy: DC ±2%; AC ±3%.
Size: 4⅛" h. x 3⅛" w. x 1¼" d.
Weight: 12 ozs.

Simpson 160 Handi-VOM—Catalog No. 12271. Complete with alligator clip leads, batteries and operator's manual. Net Each..... **$98.00**

Simpson No. 02056—Amp-Clamp Adapter Pins for 160 VOM. Net Each..... **3.75**

MODEL 262-3 VOM

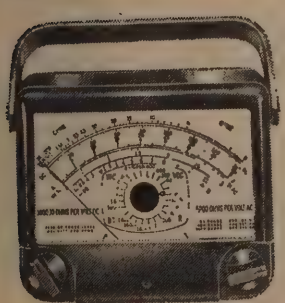
Compact design covers 34 ranges on easy-to-read 7" scale with repetitive accuracy. Diode overload protection.



SPECIFICATIONS

DC Volts: 0 to 1.6, 8, 40, 160, 400, 800, 1600, 4000 (with probe) volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 3, 8, 40, 160, 400, 800 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 80, 160 μA; 0 to 1.6, 16, 160 mA; 0 to 1.6, 8 amps.
dB: −12 to +45.5 in four ranges.
Output: 0.1 μF capacitor in series with AC voltage ranges thru 160 volts.
Resistance: Rx1 (500 ohms), Rx10 (5K ohms), Rx100 (50K ohms), Rx1K (500K ohms), Rx10K (5 megohms), Rx100K (50 megohms).
Accuracy: DC volts ±2%; AC volts ±3%; DC current ±2%; Resistance ±2.5° of arc.
Size: 7¼" w. x 6" h. x 3" d.
Weight: 4 lbs.

Simpson Model 262-3—Catalog No. 12182. Complete with test leads, 4000 VDC probe extension, batteries and manual. Net Each..... **$179.00**



MODEL 269-3 VOM

Self-shielded taut band movement gives better repeatability of readings. Input circuits protected by fuse; movement protected by varistor. Meter has mirror scale and knife-edge pointer for more accurate readings; ±1.5% DC and ±2.5% AC accuracy.

SPECIFICATIONS

DC Volts: 0 to 0.8, 1.6, 8, 40, 160, 400, 800, 1600, 4000 at 100,000 ohms/volt sensitivity.
AC Volts: 0 to 3, 8, 40, 160, 400, 800 at 5000 ohms/volt sensitivity.
DC Current: 0 to 16, 160 μA; 0 to 1.6, 16, 160 mA; 0 to 1.6, 8 amps.
dB: −12 to +45.5 in four ranges.
Output: External 0.1 μF capacitor required when DC is present.
Resistance: Rx1 (2K ohms), Rx10 (20K ohms), Rx100 (200K ohms), Rx1K (2 megohms), Rx10K (20 megohms), Rx100K (200 megohms).
Accuracy: All ranges ±1.5%; Resistance ±2° of arc.
Size: 7¼" w. x 6" h. x 3" d.
Weight: 4 lbs.

Simpson Model 269-3—Catalog No. 12192. Complete with test leads, 4 KV probe extension, and manual. Net Each..... **$208.00**

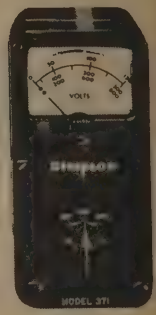
ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Micro Testers

INSTRUMENTS THAT STAY ACCURATE

MODEL 230-3 VOM

DC Volts: 0 to 10, 50, 250, 1000 at 1000 ohms/volt sensitivity.
AC Volts: 0 to 10, 250, 1000 at 1000 ohms/volt sensitivity.
DC Current: 0 to 10, 50, 250 mA.
Resistance: 0 to 1000 and 100,000 ohms.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 230-3 VOM—Catalog No. 12142. Complete with leads and manual. Net Each.....**$84.00**



Model 371



Model 230

MODEL 362 LOW-OHMMETER

Resistance: 0 to 5 and 25 ohms.
Accuracy: ±3% of linear arc length.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 362-2 Low-Ohmmeter—Catalog No. 12281. Complete with calibrated test leads. Net Each.....**$77.00**

MODEL 370 AC AMMETER

AC Current: 0 to 1, 2.5, 5, 10, 25 amps.
Accuracy: ±5% full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 370 AC Ammeter—Catalog No. 12290. Net Each.....**$74.00**

MODEL 371 AC VOLTMETER

AC Volts: 0 to 150, 300, 600.
Accuracy: ±3% full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 371 AC Voltmeter—Catalog No. 12300. Net Each.....**$74.00**

MODEL 372-2 OHMMETER

Resistance: 0 to 500, 5000, 50K, 500K, 5 megohms, 50 megohms.
Accuracy: ±3° of linear arc length.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 372-2 Ohmmeter—Catalog No. 12311. Complete with leads and manual. Net Each.....**$77.00**



Model 375

MODEL 373 DC MILLIAMMETER

DC Current: 0 to 1, 5, 10, 25, 50, 100, 250, 500, 1000.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 373 DC Milliammeter—Catalog No. 12320. Net Each...**$74.00**



Model 362

MODEL 374 DC MICROAMMETER

DC Current: 0 to 50, 100, 250, 500, 1000 μA.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 374 DC Microammeter—Catalog No. 12330. Net Each..**$74.00**

MODEL 375 DC AMMETER

DC Current: 0 to 1, 2.5, 5, 10 25 amps.
Accuracy: ±3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 375 DC Ammeter—Catalog No. 12340. Net Each.....**$74.00**

MODEL 376 AC VOLTMETER

AC Volts: 0 to 5, 10, 25, 50, 100, 250, 500, 1000 at 1000 ohms/volt sensitivity.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 376 AC Voltmeter—Catalog No. 12350. Net Each.....**$74.00**



Model 376

MODEL 377-2 DC VOLTMETER

DC Volts: 0 to 1, 2.5, 5, 10, 25, 50, 100, 250, 200, 1000 at 1000 ohms/volt sensitivity.
Accuracy: ± −3% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 377-2 DC Voltmeter—Catalog No. 12361. Net Each.....**$74.00**

MODEL 378 AC MILLIAMMETER

AC Current: 0 to 5, 25, 100, 250, 1000 mA.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 378 AC Milliammeter—Catalog No. 12370. Net Each....**$74.00**

MODEL 379 BATTERY TESTER

DC Volts: 0 to 1.5, 4.5, 6, 7.5, 9, 15, 22.5, 30, 45, 67.5, 90.
Load Resistance: Within ±5%.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 379 Battery Tester—Catalog No. 12380. Complete with leads and manual. Net Each.....**$74.00**



Model 377



Model 370

MODEL 390 AC VOLT/AMP/WATTMETER

AC/DC Volts: 0 to 150, 300.
AC Current: 0 to 3, 15 amps.
Watts: 0 to 300, 600, 1500, 3000.
Accuracy: ±5% of full scale.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 390-2 AC Volt/Amp/Wattmeter—Catalog No. 12481. Complete with test cord assembly and operator's manual. Net Each.....**$144.00**

MODEL 392 AC/DC VOLT/WATTMETER

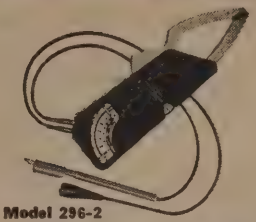
AC/DC Volts: 0 to 130, 260.
Watts: 0 to 1000, 5000.
Accuracy: ±3% of full scale AC, ±5% of full scale. DC.
Size: 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.
Simpson Model 392 AC/DC Volt/Wattmeter—Catalog No. 12500. Complete with cord, plug, and operator's manual. Net Each.....**$144.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

INSTRUMENTS THAT STAY ACCURATE

AMP-CLAMP SERIES

Compact instruments for faster, easier measurement of AC systems and easy location of grounds and shorts in motors, relays, transformers and control circuits. Load balance tests and AC current measurements can be made without equipment shutdown or power interruption.



Model 296-2

MODEL 296-2 VOLT/OHM/AMMETER

SPECIFICATIONS

AC Volts: 0 to 30, 150, 300, 600 volts.
AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Resistance: 0 to 500 ohms.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.
Simpson Model 296-2 Volt/Ohm/Ammeter—Catalog No. 12225. Complete with test leads, battery, two fuses and operator's manual. Net Each..... **$99.00**



Model 295-2

MODEL 295-2 VOLT/AMMETER

SPECIFICATIONS

AC Volts: 0 to 30, 150, 300, 600 volts.
AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.
Simpson Model 295-2 Volt/Ammeter—Catalog No. 12224. Complete with test leads and manual. Net Each..... **$88.00**



Model 294-2

MODEL 294-2 AC AMMETER

SPECIFICATIONS

AC Current: 0 to 6, 15, 30, 60, 150, 300 amps.
Accuracy: ±3%.
Size: 10" l. x 2.7" w. x 1.4" d.
Weight: 14 ozs.
Simpson Model 294-2 AC Ammeter—Catalog No. 12223. Complete with manual. Net Each..... **$75.00**

ACCESSORIES

Simpson No. 02226—Deluxe black vinyl carrying case for Amp-Clamp meters. Net Each..... **$27.50**
Simpson No. 02228—Economy black vinyl carrying case for Amp-Clamp meters. Net Each..... **$10.75**
Simpson No. 02227—Voltage probe and holding bracket. Net Each..... **4.75**



Model 151-2

MODEL 151-2 LINE SPLITTER

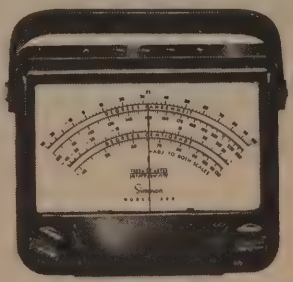
Line splitter measures AC line currents up to 10 amperes continuously or to 15 amperes intermittently, all without power interruption. Unit provides 10X multiplication for low current values. Permits appliance ground to be connected directly to earth ground. The tough, durable, high-impact resistant housing withstands industrial and heavy-duty maintenance conditions.
Model 151-2 AC Line Splitter—Catalog No. 00544. Complete with 2 ft. line cord, 3-prong plug and operator's manual. Net Each..... **$12.50**



MODEL 388-3L THERM-O-METER

Measures the temperature of gases, air, solids or liquids over a range from −50° F to +1000° F (−40° C to +500° C). Combination Fahrenheit and Centigrade scale. Iron-Constantan thermocouple sensing element. **Accuracy:** ±1½ scale divisions. **Size:** 7 15/16" w. x 6" h. x 2 15/16" d. **Weight:** 4 lbs. Meter is switchable between three probes.

Simpson Model 388-3L Therm-O-Meter—Catalog No. 12460. Complete with one probe on 8 foot lead, battery and operator's manual. Net Each..... **$184.00**



MODEL 389-3L DUAL RANGE THERM-O-METER

Dual range temperature tester makes readings in three different locations with switch selection of probes. Dial has combination Fahrenheit and Centigrade scales. **Ranges:** −50° F to +100° F (−40° C to + 35° C); +100° F to +250° F (+40° C to + 120° C). **Accuracy:** ±2° F at center scale; ±3° F elsewhere. **Size:** 7 15/16" w. x 6" h. x 2 15/16" d. **Weight:** 4 lbs.

Simpson Model 389-3L Therm-O-Meter—Catalog No. 12470. Complete with 15 foot thermistor lead and operator's manual. Net Each..... **$173.00**



Model 385-3L



Model 387

MODEL 385-3L TEMPERATURE METER

Compact instrument ideal for measuring temperatures from −50° F to +70° F under conditions where fast, accurate readings are important. Thermistor type sensing element. Takes temperature readings in three different locations with switch selection. **Accuracy:** ±1° F at center scale; ±2° F at ends. **Size:** 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.

Simpson Model 385-3L Temperature Meter—Catalog No. 12420. Complete with one 15 foot thermistor lead and operator's manual. Net Each..... **$98.00**

MODEL 387 APPLIANCE TESTER

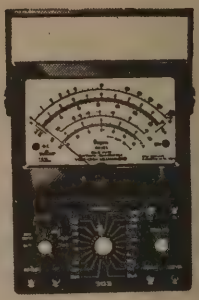
Millivoltmeter makes gas appliance servicing faster and more accurate. Connect the probe to the thermocouple output and test for the correct current output. Checks all gas-fired appliances. **Ranges:** 0 to 10, 30, 100, 300, 1000 millivolts. **Accuracy:** ±3% of full scale. **Size:** 5⅞" h. x 3" w. x 2½" d. **Weight:** 1½ lbs.

Simpson Model 387 Appliance Tester—Catalog No. 12440. Net Each..... **$77.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

INSTRUMENTS THAT STAY ACCURATE

MODEL 303-XL SOLID STATE FET VOM

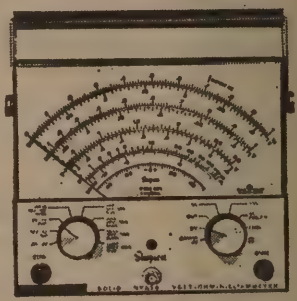


High impact and shock resistant case.
Zero-center scale for nulling.
Low-power ohms for sensitive circuitry.
7 ranges on normal and low-power ohms.
Auto polarity indication.
Rechargeable battery operation.
120 VAC or 230 VAC input.
FET and IC circuitry.

SPECIFICATIONS

DC Volts: 0 to 0.03, 0.1, 0.3, 30, 100 300. 1000.
AC Volts: 0 to 0.03, 0.1, 0.3, 30, 100, 300, 1000.
DC Current: 0 to 30 μA, 0 to 1, 30 mA, 0 to 1, 10 amps.
AC Current: 0 to 30 μA, 0 to 1, 30 mA, 0 to 1, 10 amps.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Accuracy: ±2% F.S. on DC all ranges; ±3% F.S. on AC from 50 to 100 Hz.
Input Impedance: 10 megohms AC and DC.
Frequency Response: Flat thru 20 kHz.
Size: 7.2" h. x 5.5" w. x 3.3" d.
Weight: 2.5 lbs.
Simpson Model 303-XL FET VOM—Catalog No. 12250. Complete with probe, test leads, battery charger adapter and operator's manual. Net Each..... **$289.00**
Simpson Model 303-XL FET VOM—Catalog No. 12251. For 220 VAC operation. Net Each..... **$289.00**

MODEL 313 SOLID STATE FET VOM



Voltage ranges overload protected.
Portable battery powered operation.
Easy-to-read 7-inch scale.
Built-in "battery test" function.

SPECIFICATIONS

DC Volts: 0 to 0.3, 1, 3, 10, 30, 100, 300, 1000.
AC Volts: 0 to 0.3, 1, 3, 10, 30, 100, 300, 1000 rms;
0 to 0.9, 2.8, 9, 28, 90, 280, 900, 2800 p-p.
DC Current: 0 to 0.1, 1, 10 100 mA, 0 to 1 amp.
Resistance: Rx1, Rx10, Rx100, Rx1K, Rx10K, Rx100K, Rx1M at 10 ohms center scale.
Decibels: −10 to +60 dB in 8 ranges.
Accuracy: ±2% DC and ±3% AC full scale.
Input Impedance: 11 megohms DC, 10 megohms AC.
Frequency Response: ±0.5 dB from 20 Hz to 20kHz; to 100kHz on three lowest ranges.
Size: 7¾" w. x 6¼" h. x 4⅝" d.
Weight: 4½ lbs.
Simpson Model 313-3 FET VOM—Catalog No. 12255. Complete with probe, batteries and operator's manual. Net Each..... **$250.00**

260-7-VOM



Fast accurate measurements on 27 popular ranges.
External access battery and fuse compartment.
Complete with batteries, test leads and manual.
Taut band, varistor protected movement.

SPECIFICATIONS

DC Volts: 0 to .25, 1, 2.5, 10, 50, 250, 500, 1000 at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 at 5000 ohms per volt sensitivity.
DC Current: 0 to 1, 10, 100, 500 mA; 0 to 10 amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp Model 150 is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50
Output: 0.1μF capacitor in series with ACV ranges thru 250 volts.
Resistance: 0 to 2K, 200K ohms; 0 to 20 megohms.
Accuracy: DC Volts ±2%; AC Volts ±3%; DC Current ±1.5% on 50 μA, ±2% on others;
Resistance ±2.5° of arc on Rx1, ±2.0° of arc on others.
Simpson 260-7—Catalog No. 12268. With standard scale. Net Each..... **$114.00**
Simpson 260-7M—Catalog No. 12269. With mirror scale. Net Each..... **119.00**
Simpson 260-7RT—Catalog No. 12272. With standard scale and in roll top safety case. Net Each..... **$129.00**
Simpson 260-7MRT—Catalog No. 12273. With mirror scale and in roll top safety case. Net Each..... **$134.00**
Simpson 260-7P—Catalog No. 12274. Same as 260-6 but has protective overload circuit with reset button that pops out when an overload is present. Net Each..... **$162.00**
Simpson 260-7PM—Catalog No. 12277. Same as 260-6P but with mirror scale. Net Each..... **$167.00**
Simpson 260-7PRT—Catalog No. 12279. Same as 260-6P but in roll top safety case. Net Each..... **$177.00**

MODEL 270-5 VOM



Designed for highest accuracy with taut band movement.
Mirror scale for precise readings.
External access battery and fuse compartment.
Complete with test leads, batteries and manual.

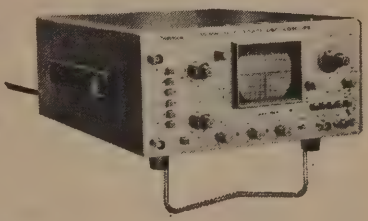
SPECIFICATIONS

DC Volts: 0 to 0.25, 1, 2.5, 10, 50, 250, 500, 1000 volts at 20,000 ohms per volt sensitivity.
AC Volts: 0 to 2.5, 10, 50, 250, 500, 1000 volts at 5000 ohms per volt sensitivity.
DC Current: 0 to 50 μAmps; 0 to 1, 10, 100, 500 mAmps; 0 to 10 Amps.
AC Current: Direct dial scale reading to 250A when Amp-Clamp adapter is used.
dB: −20 to +10, −8 to +22, +6 to +36, +20 to +50.
Output: 0.1 μF capacitor in series with AC voltage ranges thru 250 volts.
Resistance: Rx1 (2K ohms); Rx100 (200K ohms); Rx10,000 (20 megohms).
Accuracy: DC volts ±1.25%; AC volts+ ±2%; DC current ±1.25% except 50 μA range, ±0.75%;
Resistance ±1° of arc except Rx1 range, ±1.5°.
Simpson Model 270-5 Portable VOM—Catalog No. 12226. Net Each..... **$139.00**
Simpson Model 270-5RT Portable VOM—Catalog No. 12227. In roll top safety case. Net Each..... **$155.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

MODEL 454 DUAL TRACE, 15 MHz OSCILLOSCOPE

Automatic chop and alternate sweep
Frequency response from DC to 15 MHz
29 nanosecond rise time
1 KHz square wave calibrator
X5 expansion
All solid state



SPECIFICATIONS

VERTICAL AMPLIFIERS

Sensitivity: 5 mV/div to 10 V/div calibrated in 1-2-5 sequence in 11 steps, uncalibrated continuous control between steps.
Bandwidth: DC coupled, DC to 15 MHz at −3 dB; AC coupled, 5 Hz to 15 MHz at −3 dB.
Rise Time: 2 nanoseconds.
Input Impedance: 1 megohm shunted by 25 pF.
Display Modes: CH A, CH B, CH A and CH B, CH A plus CH B, CH A minus CH B.

HORIZONTAL AMPLIFIERS

Sensitivity: 5 mV/div to 10 V/div calibrated in 1-2-5 sequence in 11 steps, uncalibrated continuous control between steps.
Bandwidth: DC coupled, DC to 800 KHz; AC coupled, 5 Hz to 800 KHz.
Input Impedance: 1 megohm shunted by 50 pF.

HORIZONTAL SWEEP RANGES

Time/cm: 0.5 μsec/div to 0.5 sec/div in 1-2-5 sequence in 11 calibrated steps; uncalibrated continuous control between steps.
TV: Pushbutton TV sync.

TRIGGERING

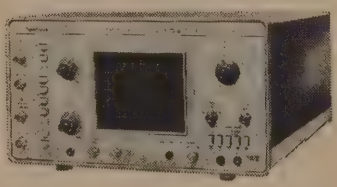
Source: External, CH A, CH B.
Mode: Normal or automatic.
Coupling: AC.
Slope: − or + of trigger signal.
Sensitivity: Internal, 1 div. from 5 Hz to 15 MHz; TV, 0.5 div.; external, 0.5 V p-p from 5 Hz to 15 MHz.

GENERAL

Power Requirements: 120/240 VAC, 50/60 Hz, 16 VA.
Size: 4⅝" h. x 9⅞" w. x 13¼" d.
Weight: 13 lbs.
Simpson Model 454 Oscilloscope—Catalog No. 12524. For 120 VAC operation. With two 10:1/direct probes. Net Each.....**$730.00**
Simpson Model 454 Oscilloscope—Catalog No. 12533. For 240 VAC operation. With two 10:1/direct probes. Net Each.....**$730.00**

MODEL 452 DUAL TRACE 5" OSCILLOSCOPE

Internal or external triggering with TVV, TVH and VITS TV sync positions.
Dual matched differential vertical amplifiers.
Automatically shifts between Chop and Alternate as sweep time is changed.
5X magnification.
24 nanoseconds rise time.



SPECIFICATIONS

VERTICAL AMPLIFIERS

Bandwidth: DC coupled, DC to 15 MHz at −3 dB; AC coupled, 2 Hz to 15 MHz at −3 dB.
Sensitivity: 11 calibrated steps from 5 mV/cm to 10 V/cm, calibrated in 1–2–5 sequence; uncalibrated continuous control between steps.
Input Impedance: 1 megohm, shunted by 25 pF.
Rise Time: 24 nanoseconds.
Overshoot: 5% or less.
Max. Input Voltage: 500 V (DC + peak AC).
Display Modes: Ch. A only, Ch. B only, Channels A and B (chopped at 1 msec/cm and slower sweeps; alternated for faster speeds), Add (A + B), Channel B invert (A − B).
Chop Frequency: 200 kHz.

HORIZONTAL AMPLIFIERS

Bandwidth: DC coupled, DC to 1.5 MHz at −3 dB; AC coupled, 2 Hz to 1.5 MHz at −3 dB.
Sensitivity: 5 mV/cm to 10 V/cm, calibrated in 1–2–5 sequence in 11 steps; accuracy within ±5% of full screen deflection; uncalibrated continuous control between steps.
Input Impedance: 1 megohm, shunted by 25 pF.
Max. Input Voltage: 500 V (DC + peak AC).

HORIZONTAL SWEEP RANGES

Time/cm (20 ranges): 0.2 μsec/cm to 0.5 sec/cm (±5%), calibrated to 1–2–5 sequence in 20 steps; uncalibrated continuous control between steps.
TV-H: 12.7 μsec/cm.
TV-V: 3.33 msec/cm.
VITS: 0.1 msec/cm.
Magnifier: 5X expands fastest sweep speed, from 0.2 μsec/cm to 40 nsec/cm.

TRIGGERING

Source: External, Channel A, Channel B.
Mode: Normal or Automatic.
Coupling: AC.
Slope: Positive or negative.
Sensitivity: Internal (Ch. A or Ch. B), 0.5 cm p-p from 10 Hz to 10 MHz; 1 cm p-p from 3 Hz to 15 MHz. Auto, 0.5 cm p-p from 50 Hz to 10 MHz. External, 0.5 cm p-p from 3 Hz to 15 MHz. TV sync, 0.5 cm p-p of deflection.

GENERAL

Power Requirements: 120 VAC ±10%, 220 VAC, ±10% or 240 VAC ±10%; 50/60 Hz; 45 VA average.
Fuse Rating: 2 amperes, 125 V, 3 AG slow-blow for 120 VAC operation.
Size: 6½" h. x 12" w. x 16" d.
Weight: 20 lbs.
Simpson Model 452 Oscilloscope—Catalog No. 12537. For 120 VAC operation. With two 10:1/direct probes. Net Each.....**$997.00**
Simpson Model 452 Oscilloscope—Catalog No. 12536. For 240 VAC operation. With two 10:1/direct probes. Net Each.....**$997.00**

ACCESSORIES LISTED ON ANOTHER SIMPSON PAGE

Simpson Instrument Accessories

INSTRUMENTS THAT STAY ACCURATE

INSTRUMENT CARRYING CASES

Provide protection and carrying convenience for your instruments.

Fits Model(s)	Description	Cat. No.	Net Each
150	Carrying case	00548	$15.75
160	Low cost vinyl	02935	10.25
160	Vinyl	02225	21.50
160	Vacuum formed	02929	35.25
208, 209	Carrying case	00578	21.75
250, 255, 260, 260XL, 261, 265, 270, 303XL	Utility vinyl	00549	38.75
250, 260, 260XL, 261, 265, 270	Vinyl	01818	28.00
250, 260, 260XL, 261, 265, 270, 303	Ever-Redy vinyl Deluxe case	00805 00812	34.25 34.25
260 and Add-A-Tester	Leather case	01871	34.25
260-2, Model 9, Model 10, 880	Roll top safety case	06192	23.50
250; 255; 260-3, -4, -5 family; 261; 265; 270	Roll top safety case	00249	25.75
260-6 family, 270-4	Roll top safety case	00248	25.75
260 series except 260-6XL	Snap-on protective face cover	02163	30.50
262, 263, 267, 268, 269, 388-3L	Ever-Redy vinyl	05262	30.50
262, 263, 269	Leather, sponge lined	01613	31.00
294, 295, 296	Vinyl	02226	27.50
294, 295, 296	Low cost vinyl	02228	10.75
312, 313, 314	Vinyl	00577	33.00
312, 313, 314	Leather, sponge lined	01565	38.00
355	Ever-Redy, vinyl	06355	11.75
360-2	Carrying case	00816	39.75
380	Vinyl	00782	34.25
385-3L, 387	Ever-Redy, leather	08073	23.50
391, 392	Leatherette covered	03413	23.75
400	Vinyl carrying case	01615	28.25
401, 405	Vinyl case	01616	31.75
408	Carrying case	00809	30.50
410	Vinyl	00811	35.00
460-3, 464, 465	Vinyl	01617	40.25
461, 710	Carrying Case	00747	29.50
603	Sponge lined case	20196	38.75
884, 886	Package case	00217	56.75
Microtesters	Ever-Redy vinyl	04299	21.50
Microtesters	Leatherette covered	03011	17.50
H. V. Probe	Snaps onto 00549	00574	11.75
TS-111	Carrying case	00719	42.00

SPECIAL USE PROBES

For Meter(s)	Description	Cat. No.	Net Each
260-2	40,000 VDC	00033	$40.00
250; 255; 260 (series 3, 4, 4M, 5, 5M, 5P, 6, 6M, 6P, 6XL, 6XLP); 261; 261-2; 267; 270; 270 (series 2, 3, 4)	40,000 VDC 10,000 VDC 10,000 VAC	00168 00034 00036	40.00 40.00 40.00
260 (series 6, 6M, 6P, 6XL, 6XLP); 270-4	5,000 VDC 5,000 VAC	00795 00794	13.75 13.75
263; 265	40,000 VDC	00037	40.00
269	40,000 VDC	00039	40.00
303-1	RF probe	00073	25.00
311-1	RF probe 40,000 VDC	00731 00725	40.00 40.00
311-2	RF probe 40,000 VDC	00174 00725	31.00 40.00
311-3	RF probe 40,000 VDC	00176 00726	31.00 40.00
312	RF probe 40,000 VDC	00152 00727	25.00 40.00
313	RF probe 40,000 VDC	00191 00728	23.00 40.00
314	RF probe 40,000 VDC	00193 00729	23.00 40.00
360; 303XL; 460; 464; 465	40,000 VDC	00432	49.25
461	40,000 VDC	00749	49.25



00805



00812

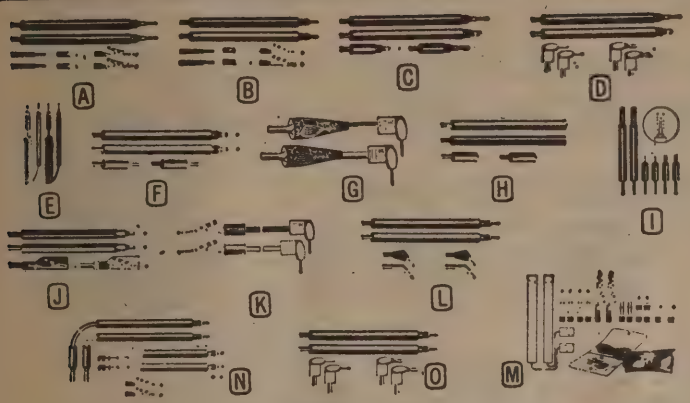
TEST LEADS AND PROBES

For Meter(s)	Description	Cat. No.	Net Each
150	Test leads	00533	$ 4.75
150 with 160	Adapter pins	02056	3.75
160	Probe tip leads Alligator clip leads	02055 01927	6.75 6.50
202, 208, 209, 229-2, 250, 255, 260 (series 3-6 only), 260XL, 261, 262 (series 3 only), 263, 265, 267, 268, 269 (series 2&3 only), 270, 360, 460, 464, 465	Comb. probe tip and removable alligator clip leads Probe tip leads Alligator clip leads Retractable grip tip probe for use with 00115 leads	00115 07538 07500 00118	9.00 7.75 7.00 8.50
230, 240, 260 (series 1&2 only), 372, 279	Probe tip leads Alligator clip leads	08381 08375	7.75 6.50
250, 255, 260, 261, 270	Low-power ohms probe	00735	51.25
256, 257	Comb. probe tip and removable alligator clip leads	07541	8.50
262 (series 1&2 only), 269 (series 1 only)	Comb. probe tip and removable alligator clip leads	08463	6.25
295, 296	Voltage probe	02227	4.75
303 (series 1 only), 651	DC probe tip lead AC probe tip lead Ground lead, 303-1	00067 00068 00069	11.75 11.75 6.25
303 (series 2 only),	AC/DC probe tip lead	00150	25.00
311	AC/DC probe tip lead	00175	24.75
313	AC/DC probe and ground clip lead	00189	24.00
314	AC/DC probe and ground clip lead	00194	55.00
355	Probe tip leads	08600	7.00
362, 371, 373, 374, 375, 376, 377, 378, 387	Probe tip leads Alligator clip leads	08379 08376	7.75 6.50
383A	Test lead assembly	07509	6.50
390	Test cord assembly	08418	15.75
400, 401, 405	Probe and clip	00737	4.50
455, 458, 459	Shielded input cable	07549	11.50
461	Comb. probe tip and removable alligator clip leads	00043	9.00
466, 715	Shielded input cable	00100	10.00
650	Test lead	07545	4.25
TS-111	Test leads	00236	3.75

TEMPERATURE TESTER LEADS AND PROBES

Fits Meter(s)	Description	Cat. No.	Net Each
385-3L, 389-3L, 651	Free air temp. probe	00789	$27.00
	15 ft. thermistor & lead	00010	23.75
	30 ft. thermistor & lead	00216	23.75
	50 ft. thermistor & lead	00415	25.50
	100 ft. thermistor & lead	00416	31.00
	150 ft. thermistor & lead	00417	38.75
	Surface temp. probe	00790	21.50
388, 388-2L	8 ft. rugged service lead	00496	20.00
	Gen pur. thermocouple	00190	20.00
	Surface temp. thermocouple, 1000° F max.	00187	25.50
255	5 ft. thermocouple	00163	14.00

H. H. Smith Test Leads & Prods



TEST LEADS

All test leads supplied with 50″ of extra flexible, rubber-covered, kinkless #20 wire, 26/34 strands, 5 KV rating, .125″ O.D. Handles are butyrate plastic per Fed. Spec. L-P349A, Type 3, Class MS, except as noted. Supplied one red, one black.

SOLDERLESS TIP TEST LEADS (FIG. A)

Handles 4″ long x ⅜″ O.D. Solderless tip of nickel-plated brass.

H.H.S. No.	Meter End	Net per Pair
600	Phone Tips	$2.88
601	Spade Lugs	2.82
602	Alligator Clips	2.94

PHONO NEEDLE TEST LEADS (FIG. B)

Nickel-plated brass body. Nickel-plated steel needle tips.

613	Phone Tips	$2.94
614	Spade Lugs	2.88
615	Alligator Clips	3.00

ALL SOLDERLESS TEST LEADS (FIG. C)

Insulated meter plugs. Tip is solderless nickel-plated brass.

603	Phone Tips	$3.38

SOLDERLESS TEST LEADS WITH SLIM HANDLE (FIG. C)

Handles are ¼″ diam. molded nylon per MIL-P-20693A. Tips silver-plated brass with front retention groove. Wire is #18, 65/36 strands, .140″ O.D., 10 KV rating.

684	Phone Tips	$4.19

SOLDERLESS PROD METER TEST LEADS (FIG. D)

Solderless tip of nickel-plated brass. Elbow type meter plugs insulated with molded phenolic plastic. Nickel-plated brass tip.

625	Phone Tips	$3.50
685	Banana Plugs	3.63

SLIM HANDLE TEST LEADS (FIG. C)

Handles and meter plugs ¼″ O.D. fibre per MIL-F-1148A, Grade CH. Nickel-plated brass tips.

678	Phone Tips	$4.13

KOIL-KORD SOLDERLESS TEST LEADS (FIG. E)

Meter plugs of molded phenolic plastic. Solderless nickel-plated brass tips. Wire is #20, 41/36 strands, 4 KV rating, .165″ O.D., 12″ coiled, 72″ extended.

618	Phone Tips	$9.38

BANANA PLUG TEST LEADS (FIG. F)

Insulated meter plugs. Solderless nickel-plated brass tips.

623	Banana Plugs	$3.63

CROCODILE CLIP TEST LEADS (FIG. G)

Cadmium plated steel clips with colored vinyl boots. Right angle phone tips, banana plugs or spade lugs.

675	Phone tips	$3.50
648	Banana plugs	3.69
671	Spade lugs	3.38

SHORT TIP TEST LEADS (FIG. H)

Insulated meter plugs. Nickel-plated brass tips.

624	Phone Tips	$3.00

RETRACTABLE SHIELDED TEST LEADS (FIG. I)

Handles have retractable cover over tip eliminating possibility of shock or shorting.

H.H.S. No.	Meter End	Net per Pair
616	Phone Tips	$4.94
617	Banana Plugs	5.25

ALLIGATOR CLIP TEST LEADS (FIG. J)

Solderless nickel-plated brass tips. Cadmium-plated steel clips covered with colored vinyl boots.

672	Alligator Clips	$3.07

MINIATURE TEST LEADS (FIG. C)

Handles 3″ long x ⅜″ O.D. Machined butyrate plastic per MIL-P-10408A, Type 1, Class 2. Meter plugs same, except ¼″ long.

660	Phone Tips	$2.57

ALLIGATOR CLIP TEST LEADS (FIG. K)

Cadmium plated steel clips with insulated handle.

628	Phone tips	$3.00
647	Banana plugs	3.25

PHONO NEEDLE TEST LEADS (FIG. L)

Nickel-plated steel needle prod. Wire #18, 65/36 strands, 10 KV rating, .140″ O.D.

1331	Banana Plugs	$4.13

PHONO NEEDLE TEST LEADS (FIG. L)

Same as No. 1331 above, except wire #24, 19/36 strands, 5 KV rating, .090″ O.D. Plugs are miniature size.

1341	Banana Plugs	$4.13

SLIM HANDLE TEST LEADS (FIG. C)

Handles 5⁄16″ O.D. machined butyrate per MIL-P-10408A, Type 1, Class 2.

670	Phone Tips	$3.00

UNIVERSAL TEST LEADS (FIG. M)

Make any required test lead combination. Supplied with phone tips, alligator clips, banana plugs, needle prod tips, spade lugs, all of which adapt into prod handle or plug handle. Complete in plastic kit.

H.H.S. No.	Description	Net per Pair
699	Standard	$9.50
679	Miniature	9.50

TEST LEAD KIT (FIG. N)

One pair of test leads with test prods on one end and banana plugs on other. Supplied with phone tips, alligator clips, and spade lugs.

H.H.S. No.	Test Prod	Net per Pair
610	Solderless	$4.32
611	Needle tips	4.44

NEEDLE PROD METER TEST LEADS (FIG. O)

Nickel-plated steel needle prod. Elbow type meter plugs insulated with molded phenolic plastic.

H.H.S. No.	Test Prod	Net per Pair
626	Phone Tips	$3.63
686	Banana Plugs	3.75

TEST PRODS

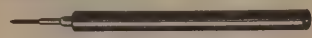
Handles are molded butyrate per Fed. Spec. L-P349A, Type 3, Class MS, except as noted. All available in red or black; **specify color.** Tips are nickel-plated brass except as noted; phono needles are steel.



SOLDERLESS TYPE

H.H.S. No.	Fig.	Handle O.D.	Handle I.D.	Handle Lgth.	Net per C
302†	A	⅜″	3⁄16″	4″	$ 45.00
303†	A	⅜″	3⁄16″	5½″	51.00
323*	A	⅜″	.245″	4″	84.00
352	A	⅜″	.245″	4″	45.00
353	A	⅜″	.245″	5½″	51.00
382	A	⅜″	3⁄16″	4″	45.00
383	A	⅜″	7⁄16″	5½″	51.00
384	A	5⁄16″	7⁄32″	5″	45.00

*Handle fibre per MIL-F-1148A, Grade CH. †Tip threads into handle; others force fit.



HEAVY DUTY TYPE

Tip threads into handle.

319	B	⅜″	3⁄16″	4″	$45.00
329	B	⅜″	7⁄16″	5½″	57.00



SHORT TIP TYPE

Tip extends only ½″ from handle.

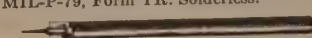
363	C	⅜″	3⁄16″	4″	$40.00
364	C	⅜″	7⁄16″	5½″	46.00



PHONO NEEDLE TYPE

313*	E	5⁄16″	5⁄32″	6″	$192.00
314*	E	5⁄16″	5⁄32″	4″	180.00
317	D	⅜″	3⁄16″	4″	51.00
318	D	⅜″	3⁄16″	5½″	57.00

*Handle XXXP phenolic laquered per MIL-P-79, Form TR. Solderless.



MINIATURE TYPE

Handle fibre per MIL-F-1148A, Grade CH; threaded tip.

244	C	5⁄16″	1⁄8″	1″	$25.00
322	B	¼″	.175″	4″	57.00
666	C	5⁄16″	1⁄8″	4″	42.00



MINIATURE PHONE TIP TYPE

Handle molded nylon per MIL-P-20693A. Tip silver-plated brass. Solderless. Fits standard .080″ tip jacks.

176	F	5⁄16″	.221″	1″	$60.00
177	F	5⁄16″	.221″	1″	60.00
178	F	5⁄16″	.221″	4″	72.00
179	F	5⁄16″	.221″	4″	72.00
348	F	5⁄16″	.221″	1″	60.00
349	F	5⁄16″	.221″	4″	72.00



HIGH VOLTAGE TYPE

Handle fibre per MIL-F-1148A, Grade CH. 15 KV rating.

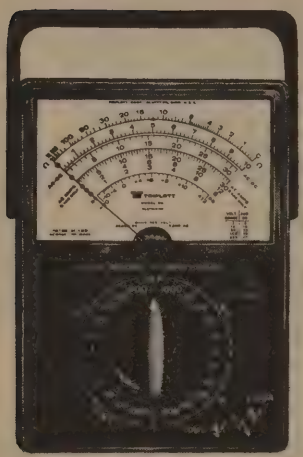
630	G	1⁄2″	⅜″	5 1⁄16″	$8.22*

*Net Each.

TRIPLETT Test Instruments

It's new. It's x'tra rugged. It's overload protected. It's safety designed. The Triplett Model 60.

MODEL 60 TYPE 2 V-O-M



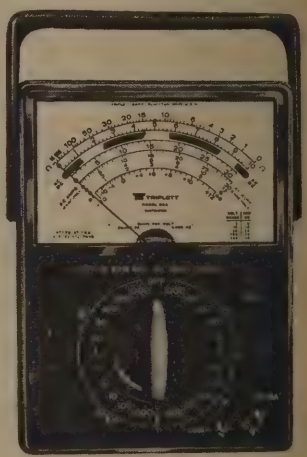
1. X'tra rugged—Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).
AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).
Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).
DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).
Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).
Output Volts: (AC—Requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).
AC Amperes: (Requires accessory Model 10 Adapter) 0–6–12–30–60–120–300.
Accuracy (Full scale): ±2% DC; ±3% AC.
Meter: Ruggedized 45 μA suspension movement module, polarity reversing switch.
Scale Length: Approx. 4½".
Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V, 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.
Confidence Test: Switch position provides reassurance check of meter movement.
Case: Molded, orange, 5¼" w. x 7¼" h. x 3¼" d.
Batteries: Neda 9 V #1604, 1–1½ V D cell.
Triplett Model 60—Complete with 48" leads, insulated alligator clips, batteries, spare ⅛ A and 1 A fuses and instruction manual. Shpg. wt. 2½ lbs. Net Ea. **$140.00**

LABORATORY ACCURACY MODEL 60A V-O-M

1. X'tra rugged—Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.



RANGES

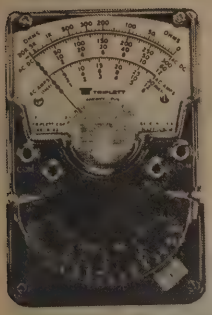
DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).
AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).
Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).
DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).
Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).
Output Volts: (AC—Requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).
AC Amperes: (Requires accessory Model 10 Adapter) 0–6–12–30–60–120–300.
Accuracy (Full scale): ±1½% DC; ±3% AC.
Scale Length: Approx. 4½".
Meter: Ruggedized suspension movement module, polarity reversing switch, mirror scale, ½% resistors.
Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V, 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.
Confidence Test: Switch position provides reassurance check of meter movement.
Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.
Batteries: Neda 9 V #1604, 1–1½ V D cell.
Triplett Model 60A—Complete with 48" leads, insulated alligator clips, batteries, spare ⅛ A and 1 A fuses and instruction manual. Shpg. wt. 2½ lbs. Net Ea. **$151.00**

ACCESSORIES FOR 60

Triplett No. 10-2739—Leather Carrying Case. Net Each..... **$33.40**
Triplett No. 79-357—30KVDC High Voltage Probe. Net Each..... **$37.50**
Triplett No. 79-362—30KVAC High Voltage Probe. Net Each..... **$37.50**
Triplett No. 91-628—30 amp DC Current Shunt. Net Each..... **$26.70**
Triplett No. 91-629—100 amp DC Current Shunt. Net Each..... **$33.00**
Triplett No. 79-433—6 KVDC High Voltage Probe Net Each..... **$19.90**
Triplett No. 79-432—6 KVAC High Voltage Probe Net Each..... **$19.90**
Triplett No. 60-211—Clamp-on AC Ammeter. (Requires 79-354 lead). Net Each..... **$34.70**
Triplett No. 79-417—Attachment Lead. Net Each..... **$6.80**
Triplett No. 60-218—Line Separator. Net Each..... **$13.70**
Triplett No. 79-373—Clip Leads for High Density Circuits. Net Each..... **$8.40**
Triplett No. 79-374—Replacement Safety Test Leads. Net Each..... **$7.40**

TRIPLETT Test Instruments

NEW DIODE-PROTECTED, HAND-SIZE V-O-M'S



Model 310

MODEL 310 TYPE 4

1. Drop-resistant, hand-size VOM with high-impact thermoplastic case.
2. 20,000 ohms per volt DC and 5,000 ohms per volt AC; diode overload protection with fused R x 1 range.
3. Single range switch; direct reading AC amps range to facilitate AC ammeter usage.

RANGES

DC Volts: 0–3–12–60–300–600 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–20K–200K–2 Meg–20 Meg (200 ohms center scale on low range).
DC Microamperes: 0–600 at 250 mV.
DC Milliamperes: 0–6–60–600 at 250 mV.
Accuracy: ±3% DC; ±4% AC (full scale).
Scale Length: 2⅛". Self-shielded.
Case: Molded, black, 2¾" w. x 1⅜" d. x 4¼" h.
Batteries: NEDA #910,220.

Triplett Model 310—Complete with 42" leads, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each.....**$70.00**



Model 310-C

MODEL 310-C TYPE 5

1. Hand-size V-O-M with diode overload-protected suspension movement.
2. 20,000 ohms per volt DC and 15,000 ohms per volt AC.
3. Single, enclosed range switch minimizes error; DC polarity-reversing switch.

Same as 310 above, except suspension meter and polarity reversing switch for DC ranges.

Triplett Model 310-C—Shpg. Wt., 2 lbs. Net Each.....**$95.00**



Model 310-FET

MODEL 310-FET TYPE II

1. Hand-size FET V-O-M with 10-megohm DC input resistance and diode overload-protected suspension movement.
2. Low voltage range of 300 mVDC; x1 megohm range.
3. Single range switch; DC polarity-reversing switch.

RANGES

DC Volts: 0–0.3–1.2–6–30–120–600. Input resistance, 10 megohms.
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–5K–500K–50 Meg–5,000 Meg (50-ohm center scale on low range).
DC Milliamperes: 0–0.12–1.2 at 300 mV.
Accuracy: ±3% DC; ±4% AC. Diode protected suspension meter.
Scale Length: 2⅛". Battery check on selector switch.
Case: Molded, black, 2¾" w. x 1⅜" d. x 4¼" h.
Batteries: NEDA 7 V, #1501M, 1½ V #910A.

Triplett Model 310-FET—Complete with 42" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 2 lbs. Net Each.....**$127.00**



Model 10

ACCESSORIES FOR 310'S

Model 10 Clamp-on AC Ammeter—For 310 and 310-FET. Ranges, 0–6–12–30–60–120–300. Net Each.....**$34.70**

Model 10-C Clamp-on AC Ammeter—For 310-C. Ranges, 0–6–12–30–60–120–300. Net Each.....**$34.70**

Model 101 Line Separator—Divides two conductor cords direct or increases Model 10 sensitivity 10x and 20x. Net Each.....**$13.70**

Model 311 Lead—42" long lead to separate Model 10 from 310 unit for easy reading in awkward spots. Net Each.....**$6.80**

Model 369 Carrying Case—For Model 310's. Net Each...**$8.50**

Model 369-S Carrying Case—For Model 310's; front opens permitting use of tester in case. Net Each.....**$19.90**

Model 379 Carrying Case—For Model 310 and Model 10 in combination, plus Model 101. Net Each.....**$16.20**

Model 79-153 Needle Tip Replacement Lead—For Model 310 series. Net Each.....**$6.80**

Model 79-296 Blunt Tip Replacement Lead—For Model 310 series. Net Each.....**$10.70**



Model 101



Model 100

HAND-SIZE V-O-M CLAMP-ON AMMETERS

1. Complete maintenance kit with V-O-M and clamp-on ammeter.
2. Diode overload protected; 20,000 ohms per volt on DC.
3. AC clamp-on will read up to 300 amps AC.

Model 100—Complete set includes Model 310, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$138.00**

Model 100-C—Complete set includes Model 310-C, Model 10-C, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$166.00**

Model 100-FET—Complete set includes Model 310-FET, Model 10, Model 101, No. 311 lead and Model 379 case. Shpg. Wt., 7 lbs. Net Each.....**$198.00**

Model 100-T—Complete set includes Model 310-T, Model 10, Model 101, No. 311 lead, temperature probe and Model 379 case. Shpg. Wt. 7 lbs. Net Each.....**$178.00**

MODEL 630 TYPE 4 V-O-M



1. Overload protected by diode and two-fuse arrangement, including 1 amp and 2 amp/600 V fuses.
2. Safety designed, completely insulated unit using newly designed safety leads.
3. Single range switch minimizes error; 5 ohmmeter ranges with 4.4 ohm center scale.

RANGES

DC Volts: 0–0.3–3–12–60–300–600 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–1K–10K–100K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–60 at 300 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
Decibels: –20 to +57 ("0" dB at 1 mW on 600-ohm line).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4⅜".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$118.00**



MODEL 666-R TYPE 2 V-O-M

1. Rugged 14-range V-O-M; single range switch minimizes error.
2. 3 ohmmeter ranges reading to 3 megohms.
3. AC and DC voltage ranges from 10 to 1000 volts.

RANGES

DC Volts: 0–10–50–250–1,000 (1,000 ohms per volt).
AC Volts: 0–10–50–250–1,000 (1,000 ohms per volt).

RANGES (CONT'D)

Ohms: 0–3K–300K–3 Meg (20-ohm center scale on low range).
DC Milliamperes: 0–10–100 at 250 mV.
DC Amperes: 0–1 at 250 mV.
Accuracy: ±3% DC; ±4% AC.
Scale Length: 3".
Case: Molded, black, 3 1/16" w. x 2 3/16" d. x 5¼" h.
Batteries: NEDA 1½ V #15 A (2); 1½ V #14F (1).

Triplett Model 666-R—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 3 lbs. Net Each.....**$89.00**

MODEL 630-PL TYPE 5 V-O-M



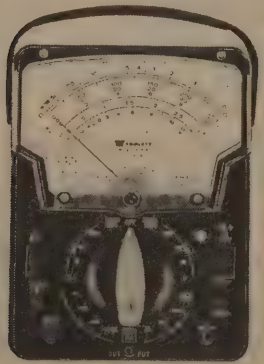
1. 28-range V-O-M with single range switch minimizes error; DC polarity-reversing switch.
2. 5" suspension meter with diode overload protection.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

RANGES

DC Volts: 0–2.5–10–50–250–1,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000 (5,000 ohms per volt). Freq. range 10 Hz to 500 kHz.
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: –20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PL—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$126.00**

Triplett Model 630-APL—Similar to 630-PL with accuracy of ±1½% DC, ±3% AC. Net Each.....**$139.00**



MODEL 630-PLK TYPE 7 V-O-M

1. Burnout-proof solid state overload protection; suspension movement.
2. Single range switch minimizes error; DC polarity-reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

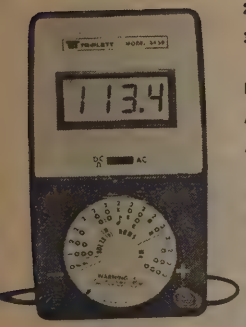
RANGES

DC Volts: 0–2.5–10–50–250–1,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Meg (4.4-ohm center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: –20 to +49 ("0" dB at 1 mW on 600-ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±2% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½". Transistorized electronic switching circuit protects tester against burn-out.
Case: Molded, black, 5½" w. x 3 1/32" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-PLK—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$184.00**

Triplett Model 630-APLK—Similar to 630-PLK with accuracy of ±1½% DC; ±3% AC. Net Each.....**$201.00**

MODEL 3450 DIGITAL MULTIMETER



1. Audible Continuity Tone plus actual resistance reading without range change. HI and LO power ohms and single range switch.
2. Overload Protection—Protected up to 1000 volts with special 2A/250 V fuse arrangement; no nuisance fuse outages on volt and ohm ranges.
3. Battery Life up to 500 hours typical with 9 V battery, display has low battery indication with 8 hours of battery life remaining.

SPECIFICATIONS

DC Volts: 0–0.2, ±0.15% of reading ±1 digit. 0–2–20–200, ±0.2% of reading ±1 digit. 0–1000, ±0.5% of reading ±1 digit. Input impedance, 10 megohms on all ranges. Full scale step response, 1 sec., max.
AC Volts: 0–0.2–2–20–200, ±0.6% of reading ±2 digits. 0–1000, ±1.0% of reading ±2 digits. Input impedance, 10 megohms all ranges. Full scale step response, 5 secs., max.
Audible Continuity Check: On 2K ohm range, instantaneous 80 dB tone for ½ sec.; also measures resistance and displays on LCD if probes are left connected. Activated from 0–1000 ohms. Tone can also be used to check diodes and transistors.
Low Power Ohms (Green Scale): 0–200–20K–2M, ±0.3% of reading ±1 digit. Max. open circuit voltage, 3 V. Full scale step response, 2 secs., max.
High Power Ohms (Black Scale): 0–2K–200K, ±0.3% of reading ±1 digit. 0–20M, ±1.0% of reading ±1 digit. Max. open circuit voltage, 3 V. Full scale step response, 2 secs., max., except 20M range, 8 secs., max.
DC Milliamperes: 0–2–20–200, ±1.0% of reading ±1 digit. 0–2000, ±1.5% of reading ±1 digit. Voltage drop across input, 200 mV. Full scale step response, 1 sec., max.
AC Milliamperes: 0–2–20–200, ±1.5% of reading ±2 digits. 0–2000, ±2.0% of reading ±2 digits. Voltage drop across input, 200 mV rms. Full scale step response, 5 secs., max.
Display: 0.5", 3½ digit LCD with polarity and low battery indicators.
Operating Temperature: +18° C to +28° C.
Battery: NEDA #1604A, 9 V.
Size: 3" w. x 5⅜" lg. x 1½" d. **Weight:** Approx. 10 ozs.

Triplett Model 3450—Complete with 36" test leads, screw-on alligator clips, extra 2 amp fuse, wire tilt stand, 9 V battery, and instruction manual. Net Each..... **$150.00**

MODEL 3400 D-V-O-M

1. Hand-size, 3½ digit—6 function, 24 ranges with HI and Low Power Ohms. Auto-zero and Auto-polarity.
2. Overload Protected—Up to 600 V on all ranges with special 2 A/250 V and 3 A/600 V fuse arrangement.
3. Battery Life—200 hrs. min. Display indicates "LOW BAT" with 50 hrs. battery life remaining.



SPECIFICATIONS

DC Volts: 0–0.2–2–20–200, ±0.5% of reading, ±1 digit; 0–600, ±0.75% of reading, ±1 digit. Input resistance, 10 megohms all ranges. Full scale step response, 1 sec. max.
AC Volts: 0–0.2–2–20–200, ±1% of reading, ±2 digits; 0–600, ±1.5% of reading, ±2 digits. Freq. response, 50–400 Hz. Input impedance, 10 megohms all ranges. Full scale step response, 5 sec. max.
Ohms—Low Power: 0–200–20K–2M, ±0.5% of reading, ±1 digit. Max. open circuit voltage, 300 mV. Full scale step response, 2 sec. max.
Ohms—Hi Power: 0–2K–200K, ±0.5% of reading, ±1 digit; 0–20M, ±1% of reading, ±1 digit. Max. open circuit voltage, 3 V. Full scale step response, 2 sec. max. on all ranges except 20M, which is 8 sec. typical.
DC Milliamperes: 0–2–20–200, ±1% of reading, ±1 digit; 0–2000, ±1.5% of reading, ±1 digit. Voltage drop across input, 200 mV. Full scale step response, 1 sec. max.
AC Milliamperes: 0–2–20–200, ±1.5% of reading, ±2 digits; 0–2000, ±2% of reading, ±2 digits. Freq. response, 50–400 Hz. Voltage drop across input, 200 mV rms. Full scale step response, 5 sec. max.
Overload Protection: 0–600 volts all ranges.
Over-range Indication: Display blinks most significant digit with polarity indicated.
DC Polarity: Automatic.
Zero: Automatic.
CMRR: 90 dB min. at 60 Hz. **NMRR:** 55 dB min. at 60 Hz.
Battery: NEDA 9 V 1604A, 200 hrs. min. life.
Case: Molded, fiesta tan, high-impact thermoplastic with non-slip "finger-tread" surface finish. Dimensions, 3" w. x 5⅜" lg. x 1½" d.
Weight: Approx. 10 oz. with battery.

Triplett Model 3400—Complete with 36" test leads, insulated screw-on alligator clips, battery and instruction manual. Net Each..... **$125.00**

MODEL 3400 KIT

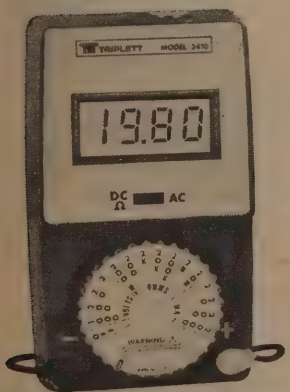
The Model 3400-K kit comes complete with Model 3400, Model 10-L Clamp-On AC Ammeter, Model 101 Line Separator, 6 KV AC and DC High Voltage Probe and convenient man-made leather case, 36" test leads, screw-on insulated alligator clips, extra 2 ampere fuse and retaining screw, wire tilt stand, 9 V battery and instruction manual.

Triplett Model 3400-K—Net Each..... **$193.00**

MODEL 3400/3410/3450 ACCESSORIES

Triplett No. 10-2969 Man-made leather carrying case—Net Each..... **$10.80**
Triplett No. 10-3002 Man-made leather carrying case—For Model 3400-K kit—Net Each..... **$26.80**
Triplett No. 10-2960 Vinyl carrying case—Net Each..... **$4.10**
Triplett No. 79-442 Replacement test leads—Net Each..... **$5.40**
Triplett No. 255-97 Wire tilt stand—Net Each..... **$0.90**
Triplett Model 10-L Clamp-On AC Ammeter—Ranges of 0–20 and 200 amperes. Net Each..... **$34.70**
Triplett No. 79-452 High Voltage Probe—0–6 KV AC/DC. Net Each..... **$28.80**
Triplett No. 91-651 External Shunt—0–20 amperes AC/DC. Net Each..... **$26.70**
Triplett Model 101 Line separator—Net Each..... **$13.70**

MODEL 3410



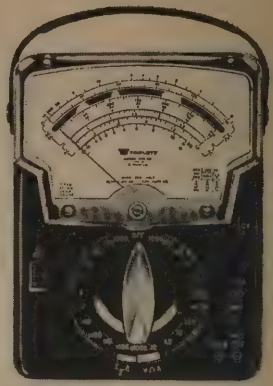
1. Hand-Size, 3½-digit, single range switch—6-function, 24 ranges with high and low power ohms. Auto-zero and auto-polarity.
2. Overload Protection: Protected up to 1000 volts with special 2 A, 250 volt and 3 A, 600-volt fuse arrangement—fuse blows in volt and ohm ranges.
3. Battery Life: 500 hrs. typical with 9-volt battery. Display has low battery indication with 8 hrs. remaining battery life.

SPECIFICATIONS

DC Volts: 0–0.2–2–20–200, ±0.5% of reading ±1 digit. 0–1000, ±0.75% of reading ±1 digit. Input Impedance (all ranges): 10 megohms. Full Scale Step Response: 1 sec. max.
AC Volts: 0–0.2–2–20–200, ±1% of reading ±2 digits. 0–1000, ±1.5% of reading ±2 digits. Input Impedance (all ranges): 10 megohms. Full Scale Step Response: 5 sec. max. Frequency Response 50 Hz to 400 Hz all ranges.
Low Power Ohms: (green scale) 0–200–20K–2M, ±0.5% of reading ±1 digit. Open Circuit Voltage: 3 V max. Full Scale Step Response: 2 sec. max.
Hi Power Ohms (black scale) 0–2K–200K, ±0.5% of reading ±1 digit. 0–20M, ±1% of reading ±1 digit. Open Circuit Voltage: 3 V max. Full Scale Step Response: 2 sec. max. (except 20M range, 8 sec. max.).
DC Milliamperes: ±0–2–20–200, ±1% of reading ±1 digit. 0–2000, ±1.5% of reading ±1 digit. Voltage Drop Across Input, 200 mV. Full Scale Step Response: 1 sec. max.
AC Milliamperes: 0–2–20–200, ±1.5% of reading ±2 digits. 0–2000, ±2% of reading ±2 digits. Voltage Drop Across Input: 200 mV rms. Frequency Response: 50 Hz to 400 Hz all ranges. Full Scale Step Response: 5 sec. max.

Triplett Model 3410—Complete with one year warranty, 36" test leads, screw-on insulated alligator clips, extra 2 amp fuse and retaining screw, wire tilt stand, 9-volt battery, and instruction manual—Net Each..... **$140.00**

MODEL 630-NA TYPE 4 V-O-M



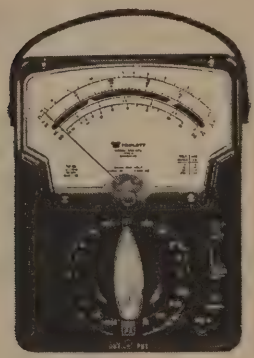
1. 58-range V-O-M with single range switch and DC polarity-reversing and range-doubling switches.
2. Accuracy 1½% DC and 3% AC; mirrored scale.
3. Diode overload-protected suspension movement; temperature compensation.

RANGES

DC Volts: 0–0.6–3–12–60–300–1,200 (10,000 ohms per volt). 0–0.3–1.5–6–30–150–600 (20,000 ohms per volt). 0–0.120 at 60 μA. 0–0.240 at 120 μA.
AC Volts: 0–3–12–60–300–1,200 (5,000 ohms per volt). 0–1.5–6–30–150–600 (10,000 ohms per volt).
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60–600 at 120 mV; 0–120 at 240 mV.
DC Milliamperes: 0–6–60–600 at 120 mV; 0–1.2–12–120–1,200 at 240 mV.
DC Amperes: 0–6 at 120 mV; 0–12 at 240 mV.
Decibels: −26 to +51 ("0" dBm at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–12–60–300 (5,000 ohms per volt). 0–1.5–6–30–150 (10,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3½" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-NA—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$173.00**

Triplett Model 630-NS—Similar to 630-NA with 200,000 ohms per VDC and 20,000 ohms per VAC. Net Each.....**$208.00**



MODEL 630-APL V-O-M

1. Accuracy 1¼% DC and 3% AC; mirrored scale; diode overload-protected suspension movement.
2. 28 range V-O-M with single range switch minimizes error; DC polarity reversing switch.
3. 4 ohmmeter ranges with 4.4 ohms center scale.

RANGES

DC Volts: 0–2.5–10–50–250–1,000 (20,000 ohms per volt); 0–0.25 at 100 μA.
AC Volts: 0–3–10–50–250–1,000 (5,000 ohms per volt).
Ohms: 0–1K–10K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–100 at 250 mV.
DC Milliamperes: 0–10–100–1,000 at 250 mV.
DC Amperes: 0–10 at 250 mV.
Decibels: −20 to +49 ("0" dBm at 1 mW on 600 ohm line).
Output Volts (AC): 0–3–10–50–250 (5,000 ohms per volt).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4½".
Case: Molded, black, 5½" w. x 3½" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-APL—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$139.00**

Triplett Model 630-APL-K—Similar to 630-APL with burn-out proof solid state overload protection. Net Each.....**$201.00**

MODEL 630-A TYPE 4 V-O-M



1. Diode overload-protected V-O-M with suspension movement; accuracy 1½% DC and 3% AC.
2. 4 ohmmeter ranges with 4.4 ohms center scale.
3. Simplified mirrored scale; only 4 arcs for all 27 ranges.

RANGES

DC Volts: 0–0.3–3–12–60–300–600 (20,000 ohms per volt).
AC Volts: 0–3–12–60–300–600 (5,000 ohms per volt).
Ohms: 0–1K–10K–100K–1 Meg–100 Megs (4.4 ohms center scale on low range).
DC Microamperes: 0–60 at 300 mV.
DC Milliamperes: 0–1.2–12–120 at 250 mV.
Decibels: −20 to +57 ("0" dB at 1 mW on 600 ohm line).
Accuracy: ±1½% DC; ±3% AC. Diode protected suspension meter.
Scale Length: 4¼".
Case: Molded, black, 5½" w. x 3½" d. x 7½" h.
Batteries: NEDA #210, 13F.

Triplett Model 630-A—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each.....**$128.00**



MODEL 30 CLAMP-ON AC VOLT/AMMETER

1. Drop-resistant, comfortable, hand-size AC volt/ammeter with single range switch and diode protected meter.
2. Designed to rigid safety standards—Completely insulated unit, including newly designed safety leads.
3. One-hand operation with pointer lock; optional ohmmeter adapter with 10 ohm center scale available.

RANGES

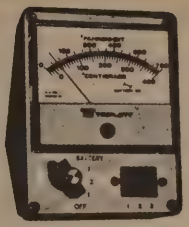
AC Volts: 0–150–300–600 volts rms (5,000 ohms/volt).
AC Amps: 0–6–12–30–60–120–300 amps rms.
Accuracy: ±3% of full scale.
Meter: Self shielded, diode overload protected.
Case: Molded, black, high-impact thermoplastic; overall size, 3¾" w. x 7½" h. x 1½" d.
Pointer Lock: Locks readings for use in dark or hard-to-reach areas.
Jaw Opening: Accommodates wires up to 1" diameter.

Triplett Model 30—Complete with 48" test leads, alligator clips and instruction manual. Net Each.....**$79.00**

Triplett Model 32—Ohms probe for Model 30. Net Each.....**$14.70**

TRIPLETT Test Instruments





G/P PORTABLE INSTRUMENTS

1. Wide clear view plastic meter, with Bar-Ring DC movements.
2. Overload protection on all models. (Diodes on DC, Fused AC.)
3. Unbreakable molded black plastic cases with aluminum panels.

- ±2% accuracy on DC and AC Iron Vane Types.
- ±3% accuracy on AC Rectifier Type and Ohms.
- ±3% or better accuracy on temperature.
- 3½" Model 320-G panel instrument.
- Five-way binding posts or three switched inputs.
- DC movements diode protected.
- AC movements fuse protected.
- Temperature unit electrically compensated.
- Case molded, black, 3⅛" w. x 4¼" d. x 4¼" h.

DC TYPE 320-G/P

Range	Net Each
0–1–5–25 V (1000 ohms/V)	$ 64.10
0–25–100–500 V (1000 ohms/V)	65.10
0–6–60–600 V (1000 ohms/V)	65.10
0–50 μA (2300 ohms resis.)	60.90
500–25–0–25–500 μA (6250 ohms resis.)	66.20
0–0.25–1–5 mA	60.90
0–25–100–500 mA	63.00
0–1–10–100 mA	63.00
0–1–5–25 A	64.10
0–50–100–250 mV*	63.00
0–3–15 A	63.00
0–10–50–250 μA (suspension)	120.80
40–0–40 μA (suspension) null meter (1700 ohms resis.)	83.00

*May be used with any of several standard switchboard shunts to extend range to higher currents.

AC IRON VANE TYPE 330-G/P

0–120–600 V (83 ohms/V) and 0–12 mA	$85.10
0–5–25 V (4 ohms/V) and 0–250 mA	64.10
0–30–120 V (17 ohms/V) and 0–60 mA	66.20
0–150 V (125 ohms/V)	50.40
0–1 A (3 ohms resis.)	48.30
0–5 A (.015 ohm resis.)	48.30
0–25 A (.002 ohm resis.)	48.30

AC RECTIFIER TYPE 350-G/P

Range	Net Each
0–6–60–600 V (1000 ohms/V)	$102.90

OHMMETERS TYPE 320-G/P

Includes battery and test leads.

0–1K–100K (10–1000 center scales) (1.5 V battery)	$69.30
0–1–100 meg (5K–500K ctr. scales) (30 V battery)	79.80

RF VOLTS TYPE 340-G/P AND WATTS TYPE 360-G/P

0–2.5 V (240 ohms/V)	$ 98.40
0–150 W (150 V, 2A max.)	102.90

TEMPERATURE TYPE 320-G/P

Suspension type; includes 5-ft. thermocouple probe, 1.5 volt C battery and instruction manual.

−150° F to +250° F; −100° C to +120° C	$112.40
−100° F to +300° F; −75° C to +150° C	112.40
0° F to +500° F; −20° C to +260° C	112.40
0° F to +750° F; −20° C to +400° C	112.40
0° F to +1000° F; −20° C to +540° C	112.40

ACCESSORIES

79-127 test leads for G/P series except temp. meters	$ 6.80
79-310 5-ft. thermocouple probe for temp. meters	16.30

ACCESSORIES

REPLACEMENT LEADS

No.	For Tester	Description	Net Each
79-153	Model 310 series	Needle nose test leads	$ 6.80
79-296	Model 310 series	Blunt nose test leads	10.70
79-267	Model 601	Test lead	27.40
79-415	630 Series, except Type 4	Model 10 attachment lead	6.80
79-416	310 Series	Model 10 attachment lead	6.80
79-417	60 Series & 630 Type 4	Model 10 attachment lead	6.80
79-261	Models 601 & 603	Black ground lead	5.00
79-363	Model 603	Test lead	27.40

No.	For Tester	Description	Net Each
79-127	Model 630 series, 666-R, 990, 6028, G/P	Test leads	$ 6.80
79-290	Model 801	Probe only	19.20
79-291	Model 801	Shielded lead	16.30
79-392	Model 3300	Test leads	15.00
79-442	Model 3400	Test leads	5.40
79-482	3600, 3600-K	Test leads	6.50
79-481	7000	Coax input lead	8.00
79-475	7000	Accessory lead	3.00

BLACK MAN-MADE LEATHER CASES

Model	For Tester	Description	Net Each
369	310, 310-C, 310-FET	Top opening with trouser loop on back	$ 8.50
369-S	310, 310-C, 310-FET	Front opening; tester usable in case	19.90
369-T	310, 310-C, 310-FET	Neck-strap style; tester usable in case	19.20
369-V	310 Series	Black vinyl pouch case	4.10
10-2963	3400, 3600	Top opening carrying case	10.80
10-2960	3400, 3600	Vinyl carrying case (padded) British Tan	4.10
10-3002	3400-K, 3600-K	Top opening carrying case	26.80
10-2961	30	Black vinyl	7.50
10-2980	30 & 32 ohms probe	Holster type	9.60
10-2860	3300	Flap folds back	20.10
379	310-10-101	With storage for leads	16.20
639	630 Series	Top opening style	25.40
639-A	60 600 & 630 Series	Front opening; tester usable in case	33.40
639-N	630 Series	Front opening; tester usable in case	28.00
639-P	630 Series	Top opening style with foam padding	35.70
639-OS	630 & 600 Series, 6028	Front opening; tester usable in case	29.30
669	666-R	Top opening style	16.70
669-OS	666-R	Front opening; tester usable in case	18.30

OUR STOCKS ARE FULLY UP TO DATE WITH ALL THE LATEST PRODUCTS.

ASK ABOUT NEW OR UNLISTED ITEMS.



MAINTENANCE KIT
MODEL 60-K V-O-M

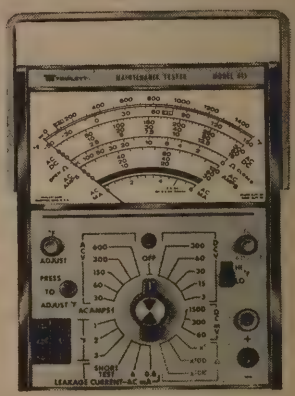
1. X'tra rugged—Will withstand an accidental drop up to a five-foot height.
2. Overload protected—All ranges protected by a diode and unusual three-fuse arrangement including ⅛ amp, 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000 (approx. 20,000 ohms per volt).
AC Volts: 0–3–10–30–100–300–1000 (approx. 5000 ohms per volt).
Ohms: 0–1K–10K–100K–1 meg–10 meg (12 ohms center scale on low range).
DC Milliamperes: 0–0.1–10–100–1000 (approx. 320 mV).
Decibels: −20 dB to +52 dB ("0" dB is equal to .775 ACV across 600 ohms).
Output Volts: (AC, requires external capacitor): 0–3–10–30–100–300 (approx. 5000 ohms per volt).
AC Amperes: (Model 10 Adaptor) 0–6–12–30–60–120–300.
Accuracy (Full Scale): ±2% DC; ±3% AC.
Scale Length: Approx. 4½".
Meter: Ruggedized suspension movement module, polarity reversing switch.
Overload Protection: Meter movement protected by a diode module, ⅛ amp/250 V, 1 amp/250 V and 2 amp/1000 V (20 KW) fuses.
Confidence Test: Switch position provides reassurance check of meter movement.
Case: Molded, black, 5¼" w. x 7¼" h. x 3¼" d.
Batteries: Neda #1604, 1–1½V D cell.
Triplett Model 60-K—Includes complete Model 60 with Model 10 AC Adapter, Model 101 Line Separator, Model 10 attachment lead and leather case. Net Each..... **$228.00**

THE 3 IN 1 TESTER . . . MAINTENANCE, TEMPERATURE, AC LEAKAGE
MODEL 615 V-O-M

1. Maintenance tester measures AC/DC volts, ohms, temperature and AC current leakage.
2. Two electrically compensated temperature ranges with switch selection for up to three temperature probes; ideal for air-conditioning and refrigeration maintenance.
3. Low millivolt ranges for thermocouple circuit troubleshooting; special scale for direct reading of AC amps with clamp-on accessory adapter.



RANGES

DC Volts: 0–.06–.3–1.5–3–15–30–60–300 (20,000 ohms per volt).
AC Volts: 0–3–30–60–150–300–600 (5,000 ohms per volt).
Ohms: 0–1K–100K–1 meg (10 ohms center scale on low range).
AC Amperes (Requires accessory Model 20A adapter): 0–6–12–30–60–120.
Temperature: −50° F to +150° F; −50° F to +1500° F.
AC Current Leakage: Short test and 0–0.6–6 mA AC for ANSI C101.1—1971 commercial appliance AC current leakage tests.
Accuracy (Full scale): ±2% DC volts and ohms; ±3% AC volts and temperature; ±4% AC current leakage; ±8% AC current (with adapter).
Scale Length: 4½".
Meter: Diode overload protected suspension movement.
Case: Molded, black, 5⅛" w. x 6½" h. x 3⅜" d.
Batteries: Two Neda #1604, one 1½ volt D cell.
Triplett Model 615—Meter and leads. Net Each..... **$225.00**
Triplett Model 615-K—Complete with Model 615, Model 20A, Model 101, black molded case, 48" leads, 6' thermocouple probe, alligator clips, batteries and instruction manual. Net Each..... **$310.00**

POCKET SIZED MAINTENANCE METER
MODEL 310-T TYPE 2 V-O-M

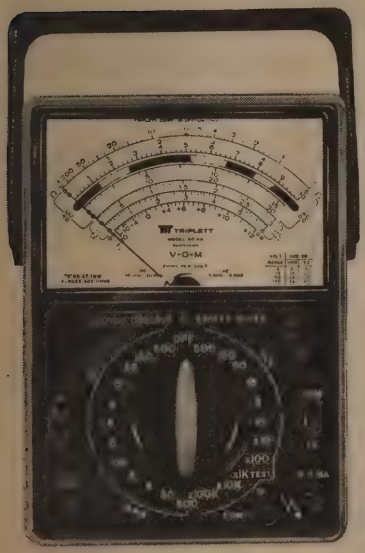


1. Drop-resistant hand-size V-O-M with two temperature ranges and clamp-on AC ammeter.
2. High-impact thermoplastic case; 20,000 ohms per volt DC and 5,000 ohms per volt AC; diode overload protection with fused Rx1 ohms range.
3. Single range switch; direct reading AC amps range facilitates clamp-on AC ammeter usage, reads to 300 amps AC.

RANGES

DC Volts: 0–3, –12, –60, –300, –600 (20,000 ohms per volt).
AC Volts: 0–3, –12, –60, –300, –600 (5,000 ohms per volt).
Ohms: 0–10K, –100K, –1 meg, –10 meg (200 ohms center scale on low range).
DC Microamperes: 0–600 at 250 mV.
DC Milliamperes: 0–6, –60, –600 at 250 mV.
Temperature: −50° F to +150° F; +50° F to +300° F.
Accuracy: ±3% DC and temperature; ±4% AC.
Scale Length: 2⅛".
Meter: Diode overload protected suspension movement.
Case: Molded black plastic, 4¼" h. x 2¾" w. x 1⅜" d.
Batteries: One NEDA 220 (15V) and one NEDA 910F (1.5V).
Triplett Model 310-T—Complete with 42" leads, 31" temperature probe, alligator clips, batteries and manual. Net Each..... **$107.00**
Triplett Model 100-T—Maintenance Kit—Complete with Model 310-T meter, Model 10 clamp-on ammeter, Model 101 line separator, Model 311 lead, Model 379 carrying case, temperature probe, 42" leads, alligator clips, batteries and manual. Net Each.. **$178.00**

MODEL 60-NA TYPE 2 V-O-M



1. X'tra rugged—50 ranges with range doubling switch and ±1½% DC accuracy. Will withstand an accidental drop up to a five foot height.
2. Overload protected—All ranges protected by diode and unusual three-fuse arrangement including ½ amp, 1 amp and 2 amp/1000 V fuses.
3. Safety designed for you—Designed to most rigid safety standards; completely insulated unit including newly designed safety leads.

RANGES

DC Volts: 0–.15–.5–1.5–5–15–150–500 (approx. 20,000 ohms per volt).
X2: 0–.3–1–3–10–30–100–300–1000 (approx. 10,000 ohms per volt).

AC Volts: 0–1.5–15–50–150–500 (approx. 10,000 ohms per volt).
X2: 0–3–30–100–300–1000 (approx. 5,000 ohms per volt).

Ohms: 0–1K–10K–100K–1 meg–10 meg–100 meg (6 ohms center scale and 120 mW on low range).

DC Microamperes: 0–50–100–500.

DC Milliamperes: 0–1–5–10–50–100–1000.

Decibels: −26 to +52 ("0" dBm at 1 mW on 600 ohm line).

Output Volts (AC): 0–1.5–15–50–150 (10,000 ohms per volt); 0–3–30–100–300 (5,000 ohms per volt).

Accuracy: (Full scale): ±1½% DC and Ohms; ±3% AC.

X2 Multiplier Switch: X2 position doubles range indicated by the range switch.

Polarity Switch: Lead polarity reversed quickly.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement module, mirror scale, ½% resistors.

Confidence Test: Reassurance test of meter movement.

Case: Gray plastic with non-slip finish, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: One 30 V NEDA #210; one 1½ V "D" cell NEDA #13F.

Triplett Model 60-NA—Complete with 48" test leads, insulated alligator clips, batteries, spare fuses and instruction manual. Shipping Weight, 4 lbs.

Net Each.....**$191.00**

MODEL 64 FET MULTIMETER

1. X'tra rugged/overload protected (all ranges)/safety designed solid state volt-ohmmeter.
2. Low-power ohms—LP™—6 ranges with 90 mV power source for in-circuit measurements plus junction test circuit.
3. Exclusive Triplett Micro Power—TMP™—Permits continuous operation with carbon battery life in excess of a year.



RANGES

DC Volts: 0–.3–1–3–10–30–100–300–1000. Input Resistance, 11.12 megohms.

AC Volts: 0–.3–1–3–10–30–100–300–1000. Input Resistance, 10 megohms.

Ohms—Low Power: 0–1K–10K–100K–1 meg–10 meg–100 meg (90 mV maximum voltage, 9 mA maximum current, .08 mW maximum power, 10 ohms center scale on low range).

Ohms—Conventional: 0–1000 meg (.9 V maximum voltage, .1 μA maximum current, .08 μW maximum power, 10 meg center scale).

Junction Test: Shorted, germanium, silicon, open scale. (.9 V maximum voltage, .9 mA maximum current, .8 mW maximum power).

Decibels: −40 dB to +62 dB ("0" dB is equal to .776 VAC across 600 ohms).

Accuracy: ±3% of full scale.

Polarity Switch: Lead polarity reversed quickly.

Overload Protection: X'tra rugged to withstand an accidental drop up to a five-foot height with deviation from stated accuracy not exceeding ±4%. Overload protected by diodes and unusual two-fuse arrangement including 1 amp and 2 amp/1000 V fuses. Safety designed to most rigid safety standards to prevent explosive arcs in high energy circuits up to the 2 amp/1000 V (20 kW) fuse capacity.

Scale Length: Approx. 4½".

Meter: Ruggedized suspension movement.

Case: Green plastic, with non-slip finish, 5¼" w. x 7¼" h. x 3¼" d.

Batteries: Two 9 V NEDA #1604 (Life one year on continuous use); one 1½ V NEDA #13F (Life one month on continuous use on ohms range).

Triplett Model 64—Complete with 48" safety test leads, insulated alligator clips, batteries, spare fuse and instruction manual. Shipping Weight 4 lbs.

Net Each.....**$202.00**

MODEL 4000 DIGITAL MULTIMETER



1. Multiple fusing—1000 V on all ranges with safety designed test leads, RF shielded, auto zero, auto polarity.
2. Six functions—0.2% accuracy, 31 ranges with selectable Hi and Lo power ohms. 3½ digit, 0.43″ LEDs.
3. Easy operation—Single range selection switch with only two recessed input jacks and convenient pushbutton function selection.

RANGES

DC Volts: 0–0.2–2–20–200 (±0.2% of reading + 1 digit); 0–1000 (±0.5% of reading + 1 digit).
AC Volts: 0–0.2–2–20–200 (±0.5% of reading + 2 digits); 0–1000 (±1% of reading + 2 digits).
Input Impedance: 10 megohms on all ranges.
Low Power Ohms: 0–200–2K–20K–200K–2 megohms (±0.5% of reading + 1 digit); 0–20 megohms (±1% of reading + 1 digit). 200 mV open circuit.
High Power Ohms: 0–200–2K–20K–200K–2 megohms (±0.5% of reading + 1 digit). 5 V open circuit.
DC Milliamperes: 0–0.2–2–20–200 (±0.5% of reading + 1 digit); 0–2000 (±1% of reading + 1 digit). Input voltage drop, 200 mV.
AC Milliamperes: 0–0.2–2–20–200 (±1.5% of reading + 2 digits). Input voltage drop, 200 mV rms.
Overrange Indication: 1 or −1 displayed with three least significant digits blanked.
Auto Polarity: Positive implied, negative indicated.
CMRR: 90 dB minimum at 60 Hz.
NMRR: 55 dB minimum at 60 Hz.
Operating Temperature Range: 0° C to +35° C.
Power Required: 120 VAC, 50/60 Hz; 240 VAC with internal change.
Case: Tan, high-impact plastic. Handle serves as tilt stand. 10″ W x 3½″ H x 9¼″ D.
Weight: 3 lbs., 4 ozs.
Triplett Model 4000 Digital Multimeter—Complete with test leads, alligator clips and instruction manual. Net Each.....**$247.00**

MODEL 7000 UNIVERSAL COUNTER/TIMER

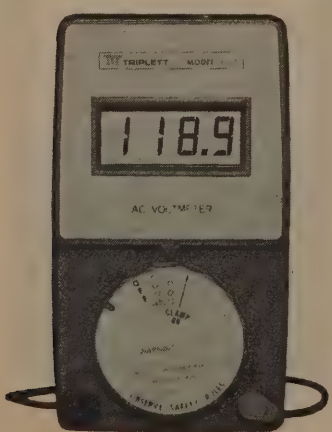
1. High-resolution, microprocessor-controlled reciprocal counting design provides both input signal frequency and period measurements.
2. 80 MHz frequency measurement plus event counting to 1 billion and elapsed-time measurement from 100 μsec to 100 hours.
3. Single-function knob for easier operation and built-in, self-testing confidence test circuit.



RANGES

Frequency: 5 Hz to 80 MHz with accuracy of ±time base accuracy ±1 count +trigger error and resolution of 1 ppm or 1 Hz.
Period: 12.5 nsec to 200 msec with accuracy of ±time base accuracy ±1 L.S.D. ±trigger error.
Events: 0 to 999,999,999 events.
Timer: 100 μsec to 100 hours with accuracy of ±time base accuracy ±1 count ±trigger error.
Input Impedance: 1 megohm shunted by 20 pF.
Input Attenuator: X1 or X10.
Time Base: 10 MHz crystal oscillator with temperature stability of less than ±.001% (±10 ppm/° C).
Display: Six digits, LED, .43″ high; annunciators for Hz/msec, K/μ, M/n.
Test Position: Unit self-tests internal electronics and display.
Power Required: 105–130/210–260 VAC, 50/60 Hz.
Size: 10″ w. x 3¼″ h. x 9¼″ d.
Weight: 4½ lbs.
Triplett Model 7000 Counter/Timer—Net Each.....**$330.00**
Triplett Model 7001—Same as Model 7000, except with temperature-controlled crystal oven. Net Each.....**$440.00**
Triplett No. 10-3012 Carrying Case—Imitation leather case. Net Each.....**$ 30.00**
Triplett No. 12458 Remote Reset Kit—All necessary parts to change front panel RESET control to rear panel remote control. Net Each.....**$4.50**

MODEL 3600 AC POWER LINE TESTER



1. Hand-size, 3½ digit, single range switch, light weight yet with rugged construction: Auto zeroing; easy to read from a distance; accuracy ±0.5%.
2. Overload Protection—Inherent protection up to 600 volts on all ranges from overloads without damage; no reading error due to parallax or balance.
3. Battery Life—500 hours typical with standard 9-volt battery, display has low-battery indication with 8-hours battery life remaining.

SPECIFICATIONS

AC Volts: 0–200 and 0–600.
Accuracy: ±0.5% ±2 digits from +15° C to +35° C.
Frequency Response: 50/60 Hz.
Input Impedance: 1 megohm shunted by 50 pF.
AC Current: 0–20,200 amps with optional Model 10-L clamp-on adapter.
Accuracy: ±3% ±2 digits.
Display: 3½ digit LCD, 0.5″ high, with low battery indicator.
Overrange Indication: Display blanks least significant digits.
Battery: NEDA 9V 1604A (one); 300 hours min. continuous duty, 500 hours typical.
Case: High thermoplastic with non-slip finish. 3″ w. x 5⅛″ lg. x 1½″ d.
Weight: Approx. 10 ozs.
Triplett Model 3600 AC Power Line Tester—Complete with test leads, battery and instruction manual. Net Each.....**$97.00**
Triplett Model 3600-K Kit—Contains Model 3600, Model 10-L clamp-on AC ammeter adapter, Model 101 line separator, leather carrying case, test leads, battery and instruction manual. Net Each.....**$150.00**
Triplett No. 60-535 Clamp-on AC Adapter—Net Each.....**34.70**
Triplett No. 60-218 Line Separator—Net Each.....**13.70**

MODEL 205 CATCH-A-PULSE® LOGIC PROBE

1. Switchless, multilogic family compatibility for DTL, TTL, MOS, CMOS, μP.
2. 10 nsec pulse width, pulse stretching to 50 msec, better than 50 MHz frequency response, high input impedance.
3. Automatic threshold selection, circuit open detection, input protection to ±70 VDC.



SPECIFICATIONS

Power Supply Limits: 4 to 15 V; high voltage adapter is available.
Logic Thresholds: Automatically programmed when power cord is connected to power supply; upper threshold is 60%, lower is 15% ±5% of power supply voltage.
Input Impedance: 60K ohms.
Max. Supply Current: 9.5 mA at 5 V, 15 μA standby at 5 V.
Supply Voltage Protection: 20 V continuous, 30 V momentary.
Pulse Stretching: Positive and negatives pulses of 10 nsec are stretched to 50 msec.
Frequency Response: DC to over 50 MHz at 4–15 V.
Input Protection: To 70 VDC max. momentary.
Power Cord: Removable, 6 feet with mini-alligator clips.
Body: Solvent resistant high impact plastic.
Triplett Model 205 Catch-A-Pulse Logic Probe—Complete with power cord, instruction manual and storage case. Net Each.....**$49.50**
Triplett Model 205-K Catch-A-Pulse Kit—Complete with Model 205, high voltage adapter No. 79-465 and power cord with Micro Hooks No. 79-466. Net Each. **$59.00**

MODEL 215 INJECT-A-PULSE® LOGIC PULSER

1. Switchless, multilogic family compatibility—DTL, TTL, MOS, CMOS, μP.
2. Automatic logic level sensing, single pulse or pulse trains, fingertip pushbutton operation.
3. Automatic current limiting, automatically programmed output voltage level.



SPECIFICATIONS

Power Supply Limits: 4 to 18 V; high voltage adapter is available.
Output Voltage Levels: Automatically programmed when power cord is connected to power supply.
Automatic Current Sensing: 0.7 amps nominal.
Max. Supply Current: 2 mA at 5 V, 1.5 mA standby at 5 V.
Input Impedance: 1 megohm in off state.
Output Impedance: 2 ohms in active state.
Output Pulse Width: 2 μsec nominal.
Input Protection: ±35 V momentary.
Power Cord: Removable, 6 feet with mini-alligator clips.
Body: Solvent resistant high impact plastic.
Triplett Model 215 Inject-A-Pulse—Complete with power cord, instruction manual and storage case. Net Each.....**$71.50**
Triplett Model 215-K Inject-A-Pulse Kit—Complete with Model 215, high voltage adapter No. 79-465, and power cord with Micro Hooks No. 79-466. Net Each. **$81.00**

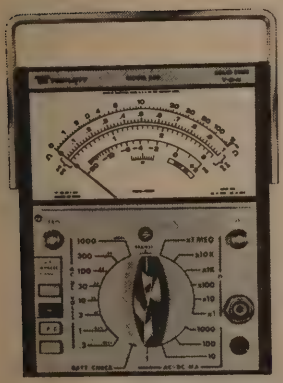
MODEL 225

A combination of the Catch-A-Pulse® and the Inject-A-Pulse® to provide fast, simple-to-use tools for digital trouble-shooting.
Triplett Model 225 Logic Test Kit—Net Each.....**$130.00**

ACCESSORIES

Triplett No. 79-471—Includes high voltage adapter No. 79-465 and coiled power cord with Micro Hooks No. 79-466. Net Each.....**$12.00**
Triplett 79-464—Replacement coiled cord with mini-alligator clips. Net Each.....**$2.50**
Triplett No. 79-465 High Voltage Adapter—For power supplies from 15 to 25 V. Net Each.....**$6.20**
Triplett No. 79-466—Coiled power cord with Micro Hooks. Net Each.....**$7.30**

MODEL 603 TYPE 2 V-O-M



1. Exclusive Triplett Micro Power—Provides battery life in excess of a year for carbon batteries.
2. Low-Power-Ohms—6 ranges with 70 mV power source for in-circuit measurements without component damage.
3. FET V-O-M with Auto-Polarity—convenient and time saving.

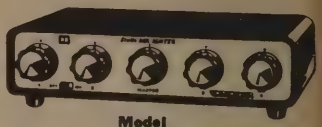
SPECIFICATIONS

DC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input resistance, 11.12 megohms with 1.12 meg in probe.
AC Volts: 0–0.3–1–3–10–30–100–300–1,000. Input impedance, 10 megohms. Frequency range, 20 Hz to 10 kHz.
Ohms—Low Power: 0–1K–10K–100K–1 Meg–10 Megs–1000 Megs (70 mV open circuit voltage, 123 μW maximum power applied to device under test, 10 ohms center scale on low range).
Ohms: 0–1K–10K–100K–1 Meg–10 Megs–1,000 Megs (1.5 V open circuit voltage, 56 mW max. power applied to device under test, 10 ohms center scale on low range).
AC and DC Milliamperes: 0–1–10–100–1,000 at 316 mV.
Decibels: −30 to +62 ("0" dB is equal to .776 V).
Accuracy: ±3% all voltage ranges and ohms; ±4% all current ranges.
Meter: Diode overload protected suspension movement.
Scale Length: 4½".
Case: Shielded molded, black, 5¼" w. x 3⅜" d. x 6½" h.
Batteries: 2 NEDA 9 V 1604, 1½ V 13F cell.

Triplett Model 603—Complete with 48" leads, alligator clips, batteries and instruction manual. Shpg. Wt., 5 lbs. Net Each....**$260.00**

SWITCHCRAFT® INC. Audio Control Equipment

MODEL 308TRP1 MixMASTER MIXER/AMPLIFIER



Model 308TRP1

Solid-state, stereo/monaural, mixer/amplifier designed for professional and/or home high-fidelity use. The MIxMASTER can be used with present broadcast or studio equipment, home phonograph, microphone, musical instrument and/or tape recorder to record sound on sound, fade music or voices, record voice over music, or mix voice and program sources from several locations. The MixMASTER assures professional sound reproduction without introducing transients or signal distortion. Finished in satin gloss black enamel with a scratch-resistant, brushed aluminum escutcheon plate. Protective rubber feet allow placement on furniture without scratching. Mixer/amplifier accepts from one to four monaural inputs or up to two stereo inputs and combines them into one low-impedance output. Can be used with up to 2000 feet of cable without loss of frequency response. **Frequency Response:** ±0.2 dB from 20 Hz to 20 kHz. **Output:** Up to 4 volts rms. **Distortion:** 1% max., 0.5% typ. **Signal-to-Noise Ratio:** 60 dB referred to 1 mV input. **Output Load:** 600 ohms or more. **Input Gain:** 65 dB. **Auxiliary Input Gain:** 20 dB. **Power Required:** 117 VAC, 60 Hz, 5 watts. **Size:** 3½″ h. x 12″ w. x 7¼″ d. **Weight:** 5½ lbs.
Switchcraft Model 308TRP1—List Price.....**$304.64**

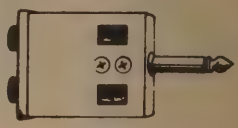
MODEL 309TRP1 STUDIO MixMASTER MIXER/AMPLIFIER



Model 309TRP1

Solid-state, stereo/monaural, mixer/amplifier designed for professional studio use for mixing, amplifying, converting from one mode to another, fading in and out on each channel or on all channels simultaneously, mixing sound with sound or dubbing sound on sound. Make single or multiple track recordings. Sharpen and master your editing, duplicating and dubbing techniques. Mixer/amplifier accommodates six channels of mono input or three channels of stereo. Features four channels with full phono equalization (switchable), bass cut-off (switchable) and an extra set of output jacks for convenient VU meter monitoring or head phone monitoring. **Frequency Response:** ±0.2 dB from 20 Hz to 20 kHz. **Output:** Up to 4 volts rms. **Signal-to-Noise Ratio:** 60 dB referred to 1 mV input. **Output Load:** 600 ohms or more. **Low Level Inputs:** Six with gain of 71 dB for low or high impedance mikes. **Magnetic Phono Inputs:** Four with gain of 56 dB (equalization "IN"). **Auxiliary Inputs:** Six with gain of 30 dB (equalization switched "OUT"). **Power Required:** 117 VAC, 60 Hz, 5 watts. **Size:** 16⅝″ w. x 3″ h. x 6½″ d. **Weight:** 7 lbs.
Switchcraft Model 309TRP1—List Price.....**$469.68**

MINI-MIX® MICROPHONE MIXERS



Model 310P1

Miniature, 2-input, high impedance audio mixers permit the use of two microphones for special recording sessions. Will record music and voice simultaneously. Have separate volume controls to regulate audio level of each input. Controls are recessed in the housing. Resistance type mixer accommodates high impedance inputs.
Switchcraft Model 310P1—2-cond. phone jack inputs with 2-cond. phone plug output. List Price.....**$16.92**
Switchcraft Model 311P1—Same as No. 310P1 except output plug is extra long for use with recessed jacks. List Price.....**$17.32**

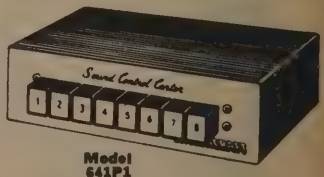
FOUR-CHANNEL MICROPHONE MIXERS



Model 301P1

Compact, 4-channel, high-impedance microphone mixers for feeding up to four signals into a single output. Ideal for mixing signals from four microphones or tuners, tape recorders, etc. Individual gain control adjustment for each channel. Amplified models are equipped with transistorized amplifier powered by a 9-volt battery (included). Overcomes the usual losses encountered with resistance type mixers and provides an additional 6 dB gain. Permits use of microphones up to 30 feet from recorder or amplifier. All models have 2-cond. phone jack inputs and 2-cond. phono jack outputs.
Switchcraft Model 306TRP1—Stereo/monaural mixer with two amplifiers. List Price.....**$70.28**

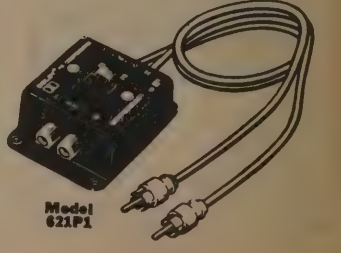
STEREO SPEAKER SWITCHING SYSTEMS



Model 641P1

Ideal control centers for complete home entertainment systems. Answer needs for full stereo sound throughout a home or in schools, clubs, offices, with positive multiple-selection control. Switchcraft Multi-Switch® multiple pushbutton switches are used throughout for reliable, trouble-free operation. Audio connectors are HI-D Jax® and are insulated from the panel for hum-free operation. Speaker lines are isolated to eliminate cross-talk. Metal housings have black, wrinkle finish with brushed aluminum panel. Power handling capacity is 100 watts max. into a 4 ohm load.
Switchcraft Model 641P1 Sound Control Center—Controls 8 complete stereo speaker systems or 8 monophonic pairs. Only one speaker system is on at one time. Actuating any pushbutton releases all previously actuated buttons. "Glo-Button" pushbuttons "light up" when actuated. Size: 2¼″ x 6¾″ x 7″. List Price.....**$131.24**
Switchcraft Model 642P1 Sound Control Center—Allows up to 8 speaker systems to play at once. Pushbuttons lock in when actuated, are released when depressed again. Size: 2¼″ x 6⅜″ x 7″. List Price.....**$107.76**
Switchcraft Model 643P1 Escutcheon Plate—For mounting Models 641P1 or 642P1, complete with instructions, template and mounting screws. List Price.....**$7.80**
Switchcraft Model 644P1 Stereo Speaker Selector VI—Controls 6 stereo speaker systems or 6 monophonic pairs. Slim-line pushbuttons stress linear design. Replaceable marking strip provides identification of pushbuttons to speakers. Only one speaker system is on at one time. Size: 6″ x 3″ x 2″. List Price.....**$53.44**
Switchcraft Model 645P1 Stereo Speaker Selector VI—Features push-lock/push-release pushbuttons so that all speaker systems could be on at once. List Price.....**$53.44**
Switchcraft Model 646P1 Escutcheon Plate—For mounting Models 644P1 or 645P1, complete with instructions, template and mounting screws. List Price.....**$7.80**

DOLBY™ FM COMPENSATORS



Model 621P1

The Dolby system significantly enhances FM program quality and increases listening pleasure. These compensators provide fully compensated Dolby B-type programs with 10 dB or more noise reduction and lower interference and noise. Units are connected in-line for full 2-channel control and need not be disconnected for standard FM programming. Switch selection of standard FM ("75" switch position) or Dolby broadcasts ("25" switch position). Program sources should have 2K ohms or less output impedance and should be equipped with Dolby circuitry.

™Registered trademark, Dolby Laboratories, Inc.

Switchcraft Model 621P1 Dolby FM Compensator—Includes 2-channel phono input jacks and output cables. List Price.....**$16.92**
Switchcraft Model 622P1 Dolby FM Compensator—Includes separate pairs of input jacks, level controls and switch for FM or TAPE. Selector switches for FM/TAPE and Dolby/standard. List Price.....**$37.52**

Q-CHEK AUDIO CABLE TESTER

Rugged, portable tester is designed to check audio cables with as many as 350 different combinations of terminations (using adapters supplied). Lighted pushbuttons show cable condition and such faults as conductor and shield/shell continuity, shorts, opens and crossed wiring.
Switchcraft No. QC1002P1—Includes sturdy steel case and 9 V battery.
List Price.....**$319.68**

PHONE JACKS


"Littel-Jax"

LITTEL-JAX®

Two and three conductor phone jacks to mate with ¼" phone plugs. Mount in ⅜" hole in panels up to ½" thick.
No. 11P2—2-cond., open circuit. List Price per Pair.....**$2.40**
No. 12AP2—2-cond., single closed circuit. List Price per Pair.....**$2.20**
No. 12BP2—3-cond., open circuit. List Price per Pair.....**$2.30**

STEREO LITTEL-JAX

Three conductor phone jack. Switches speakers off when connecting stereo headphones. Dual NC contacts open both stereo circuits independently when 3-cond. plug is inserted.
No. 14BP2—3-cond., dual closed circuit. List Price per Pair.....**$5.10**


"Tini-Jax"

TINI-JAX®

Two conductor miniature phone jacks to mate with Tini-Plug and all miniature plugs with ¾" dia. finger.
No. 41P2—2-cond., open circuit. List Price per Pair.....**$2.20**
No. 42AP2—2-cond., closed circuit. List Price per Pair.....**$2.30**


"Micro-Jax"

MICRO-JAX®

Two conductor subminiature phone jack to mate with Micro-Plug® and other plugs with .097" dia. finger.
No. TR-2AP2—2-cond., closed circuit. List Price per Pair.....**$2.80**


"Tini-Extension Jax"

"EXTENSION JAX"

Two and three conductor extension phone jacks for standard ¼" dia. phone plugs. Screw-on handle.
No. 80P1—2-cond., screw terminals, black handle. List Price.....**$2.85**
No. 88P1—2-cond., solder terminals, black handle. List Price.....**$2.50**
No. 120P1—2-cond., screw terminals, shielded handle. List Price.....**$3.55**
No. 121P1—2-cond., solder terminals, shielded handle. List Price.....**$3.65**
No. 131P1—3-cond., solder terminals, shielded handle. List Price.....**$4.55**
No. 830P1—3-cond., screw terminals, black handle. List Price.....**$3.90**


"Thick-Panel Jax"

"TINI-EXTENSION JAX"

An extension or cable jack to mate with Tini-Plug®. Metal housing. Screw-on handle.
No. 125P1—2-cond., solder terminals, shielded handle. List Price.....**$2.95**

"THICK-PANEL JAX"

Standard ¼" dia. phone jacks with long bushing to mount in panels up to 1¼" thick.
No. 151P1—2-cond. List Price....**$3.35**
No. 152BP1—3-cond. List Price..**$3.65**

SWITCHES


201SP1

LITTEL-SWITCH®

Small, momentary contact pushbutton switches. Silver contacts rated 3 amps, 300 watts, AC, non-inductive. Mount in ¾" hole in panels up to ¼" thick.
No. 201SP1—Black button, SPST-NO. List Price.....**$2.70**
No. 203SP1—Black button, SPDT. List Price.....**$3.00**


903P1

"BUTTON SWITCH"

Small, enclosed, momentary action SPDT pushbutton switch. Contacts rated 250 mA, 30 watts, AC, non-inductive. Mount in 15/32" hole in panels up to 13/16" thick.
No. 903P1—Red button.
List Price.....**$2.50**
No. 913P1—Black button.
List Price.....**$2.50**


46206LRP1

SLIDE SWITCH

Precision, 2-position, slide switch with bifurcated contacts rated 0.5 amp DC, 3 amps AC, 125 volts, non-inductive. Black knob, height, 1⅛".
No. 46206LRP1—DPDT locking type. List Price.....**$1.20**

SLIDE SWITCH

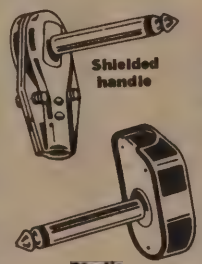
Three-position slide switch with positive center detent. Locking in all positions.
No. 46313LDRP1—DPTT locking. List Price.....**$1.55**


46313LDRP1

PUSHBUTTON SWITCH KIT

Contains all the components needed to complete a front-mounting, momentary action, SPST, illuminated pushbutton switch. Includes 6 different colored display screens and instructions.
No. K-125P1—Uniswitch kit.
List Price.....**$4.80**






"Tini-Plug"


"Micro-Plug"


"Silent-Plug"


"Power-Plug"

PHONE PLUGS

LITTEL-PLUG®

Small handle phone plugs fit standard ¼" dia. phone jacks such as Littel-Jax.
No. 240P2—2-cond., screw terminals, black handle. List Price per Pair.....**$3.70**
No. 245P2—2-cond., screw terminals, red handle. List Price per Pair.....**$3.70**
No. 250P2—2-cond., solder terminals, black handle. List Price per Pair.....**$3.60**
No. 260P2—3-cond., screw terminals, black handle. List Price per Pair.....**$5.70**
No. 267P2—3-cond., solder terminals, black handle. List Price per Pair.....**$5.10**
No. 270P2—2-cond., screw terminals, shielded handle. List Price/Pair..**$5.10**
No. 280P2—2-cond., solder terminals, shielded handle. List Price/Pair..**$5.00**
No. 290P2—3-cond., screw terminals, shielded handle. List Price/Pair..**$6.40**

"FLAT-PLUG"

¼" dia. phone plugs with space-saving, right-angle handles.
No. 220P2—2-cond., screw terminals, black handle. List Price per Pair.....**$5.10**
No. 225P2—2-cond., screw terminals, red handle. List Price per Pair.....**$5.10**
No. 228P2—2-cond., solder terminals, shielded handle. List Price/Pair..**$4.70**
No. 230P2—3-cond., screw terminals, black handle. List Price per Pair.....**$6.00**

TINI-PLUG

Miniature, 2-conductor phone plugs mate with Tini-Jax. Handles 1¾" long.
No. 740P2—Screw terminals, black handle. List Price per Pair.....**$3.40**
No. 745P2—Screw terminals, red handle. List Price per Pair.....**$3.40**
No. 770P2—Screw terminals, shielded handle. List Price per Pair.....**$4.60**

MICRO-PLUG®

Subminiature, 2-conductor phone plugs only 1¼" long. Finger .097" dia. mates with Micro-Jax. Screw-on handles. Solder terminals.
No. 850P2—Black handle. List Price per Pair.....**$3.20**
No. 855P2—Red handle. List Price per Pair.....**$3.20**

"SILENT-PLUG"

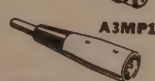
Two conductor, standard ¼" dia. phone plug with special circuit-closing device which is actuated when plug is removed from jack. Eliminates "pops" and "squeals." Screw-on handle, screw terminals.
No. 169P1—Black handle. List Price per Pair.....**$4.55**

"POWER-PLUG"

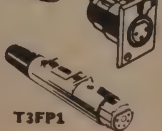
Two conductor, external power plugs to mate with sockets used on transistorized portable equipment. Plugs have sleeve .218" O.D. x ⅜" long, including a 1/16" wide insulator ring at the tip. Hollow center conductor is terminated with a solder lug. Screw-on handles. Each package contains one red and one black plug.
No. K-141P2—Center cond. .100" dia. List Price per Package.....**$3.50**
No. K-142P2—Center cond. .080" dia. List Price per Package.....**$3.50**

AUDIO AND PHONO CONNECTORS


A3FP1


A3MP1




T3FP1

"Q-G" CONNECTORS

"Quick-Ground" connectors with exclusive "Ground-Terminal." Possible loss of insert screw is eliminated by left-hand threaded screw. Mate with all other connectors with similar contact arrangement. Die cast zinc body with satin-nickel finish.
No. A3FP1—Female plug, 3 contacts. List Price.....**$4.25**
No. A3MP1—Male plug, 3 pins.
List Price.....**$3.70**
No. A4FP1—Female plug, 4 contacts. List Price.....**$5.25**
No. A4MP1—Male plug, 4 pins.
List Price.....**$3.95**
No. B3MP1—Male panel receptacle. Mounts with locknut. 3 pins.
List Price.....**$5.20**
No. B4MP1—Male panel receptacle. Mounts with locknut. 4 pins.
List Price.....**$5.35**
No. D3FP1—Female panel receptacle. Mounts with 2 screws. 3 contacts.
List Price.....**$5.65**
No. D4FP1—Female panel receptacle. Mounts with 2 screws. 4 contacts.
List Price.....**$5.85**

CONNECTORS

"PREH" SERIES AUDIO CONNECTORS


01QK1MP1

Miniature audio connectors are exact replacements for foreign audio equipment.

No. 01QK2MP1—Male plug, 2 cond., plastic handle, pin Dia. No. 8. List Price.. **$1.30**

No. 05BL3MP1—Male plug, 3-pin, metal handle, pin Dia. No. 2. List Price.. **$3.30**


05BL3MP1

No. 05BL5MP1—Same as above except 5 pins, pin Dia. No. 5. List Price.... **$3.55**

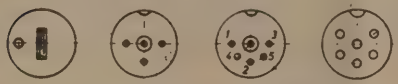
No. 05GM3MP1—Male plug, 3-pin, plastic handle, pin Dia. No. 2. List Price.. **$2.55**

No. 05GM5MP1—Male plug, 5-pin, plastic handle, pin Dia. No. 5. List Price.. **$2.80**

No. 57GB5FP1—Female receptacle, 5-contact, contact Dia. No. F. List Price. **$1.95**


57GB5FP1

PIN ARRANGEMENTS



CONTECT ARRANGEMENTS


K

MICROPHONE CONNECTORS


2501MPCP1

Small connectors with 5/8-27 threads. For single conductor cable with 9/32" max. O.D. Brass, nickel-plated shells.

No. 2501FP1—Female connector with coupling ring. List Price..... **$1.60**

No. 2501MP1—Male connector. List Price..... **$1.45**

No. 2501MPCP1—Male panel receptacle. Mounts in .385" dia. hole. List Price **$1.55**

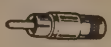
PHONO JACKS AND PLUGS


3501FP5

Economy, 2-cond. phono jacks and plugs for record players, FM/AM tuners, tape recorders, etc.

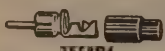
No. 3501FP5—Chassis jack. List Price per Package of Five..... **$1.75**

No. 3501FPP2—Chassis jack for front mount in 1/4" dia. hole. List Price per Package of Two..... **$1.35**


3502P2

No. 3502P2—Plug with screw-on handle and cable clamp List Price per Pair.... **$2.10**

No. 3503P2—"Extension Jax," shielded metal handle cable clamp. List Price per Pair..... **$2.70**


3558P4

No. 3558P4—Plugs with snap-on handles in red, white and black. List Price per Package of Four..... **$2.25**

AUDIO ACCESSORY KITS

For audiophiles, hobbyists, experimenters and musicians. Each kit features specially selected assortment of plugs, jacks, connectors and/or molded cable assemblies. Kits housed in reusable plastic box.

UNIVERSAL ADAPTER KIT

"Universal-Application" kit featuring 11 of the most frequently used audio adapters and one molded interconnecting cord. Solves 90% of the problems of interconnecting equipment that does not have mating connectors. Kit includes one each of Nos. 25AF25P1, 25YP1, 330F1P1, 332AP1, 334AP1, 336BP1, 345AP1, and two each of Nos. 44P1 and 349AP1.

No. 331AP1—List Price..... **$30.70**

ADAPTER-CONNECTOR KIT

Larger adapter-connector kit for microphone connector adaptations in addition to interconnecting equipment. Kit contains one each of Nos. 334AP1, 338BP1, 336AP1, 332AP1, 361P1, 25YP1, 330FP1, 330MP1, 330PJP1, and two each of Nos. 349AP1, 44P1, and 345AP1.

No. 359P1—List Price..... **$46.75**

UNIVERSAL CONNECTOR KIT

Contains all phono plugs and jacks, phone plugs and jacks, and microphone connectors and receptacles needed for most applications. Kit contains four No. 3501FPP1 phono jacks, four No. 3501MC phono plugs, three No. 3502P2 phono plugs, one No. 3503P2 phono "Extension-Jax", two No. 2501FS microphone adapters, two No. 2501FP1 microphone connectors, four "Mini-Con" connectors, eight Littel-Plug phone plugs, one No. 169 "Silent-Plug," two No. 11 Littel-Jax, four "Flat-Plug" phone plugs, and two each of Nos. 240P2, 250P2, and 280P2.

No. 360P1—List Price..... **$61.65**

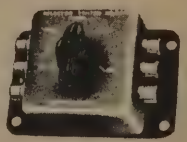
MUSIC-MAKER'S KIT

The complete adapter-connector kit. Eliminates unsightly, "makeshift" audio connectors. Kit contains one each of Nos. A3MP1, A3FP1, 2501FP1, 335AP1, 339AP1, 383AP1, 384AP1, 386AP1, 387AP1, 389P1, 390P1, 332AP1, 44P1, 330MP1, 334AP1, 338BP1, and 25YP1.

No. K-130P1—List Price..... **$95.00**

HIGH-FIDELITY SWITCHES AND CONTROLS

Hi-Fi and stereo volume controls and switches completely wired and ready for use. In metal housing finished in tan enamel. Size: 2" x 2" x 1". Supplied with instruction sheet and mounting hardware.


664P1

Switchcraft Model 657P1 Stereo Speaker Selector Switch—Seven-position switch mounted on brushed brass wall plate to fit standard wall outlet box, speaker cabinet, or control panel. Select any one, two or three pairs of stereo speakers or any combination of three. Constant impedance in any position. Screw terminals. Size: 2¾" x 1½" x 1⅝" List Price..... **$32.95**

Switchcraft Model 657SP1 Stereo Speaker Selector Switch—Same as No. 657P1 except brushed stainless steel. List Price..... **$32.95**

Switchcraft Model 664P1 Multiple Selector Control—Accepts up to 5 inputs and connects any one of these to one output. Inputs are labeled: AM, FM, PHONO, TAPE, AUX. Phono jack connectors. List Price..... **$18.70**


669P1

Switchcraft Model 666P1 Speaker Volume Control—L-pad volume control reduces mismatch to amplifier at different volume settings. Can be mounted on speaker cabinet or remotely. Screw terminals. Rated 5 watts peak audio at 8 ohms. List Price... **$16.20**

Switchcraft Model 667P1 Speaker Selector Switch—For connecting remote speakers to radio, TV, or hi-fi. Permits listening in any room. Three-position switch permits choice of either or both speakers at the same time. Screw terminals. List Price..... **$17.45**

Switchcraft Model 668P1 Stereo Selector Switch—Selects both channels of any one of three stereo sources and connects to one pair of outputs. No need to re-wire system when program sources are changed. Phono jack connectors. List Price..... **$19.65**

Switchcraft Model 669P1 Stereo Volume Control—Specially matched tandem control for high-impedance circuits. Two-ganged, 1 megohm controls designed to be used as stereo volume or gain control. Phono jack connectors. List Price..... **$21.05**

Switchcraft Model 670P1 Stereo Speaker Selector Switch—Select either or both pairs of stereo speakers. Screw terminals. List Price..... **$21.05**

Switchcraft Model 672P1 Private Listening Station—Designed for individual listening with 600 ohm or higher earphones connected to TV or radio. Contains 10,000 ohm volume control and 2-cond. phone jack for earphones. Built-in resistor protects volume control. Input has phono jack and screw terminals in parallel. List Price..... **$13.55**

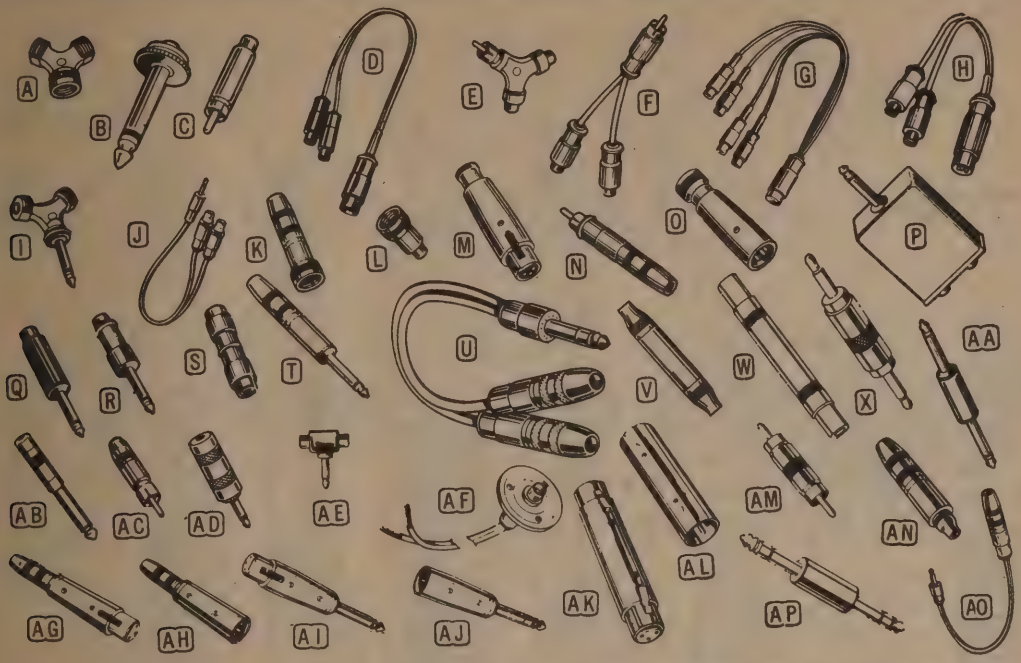

676P1

Switchcraft Model 676P1 Audio Junction Box—Provides four auxiliary outputs for multiple headphone use. Four 2-cond. phone jacks wired in parallel and two side-panel grommets for multiple wiring. List Price..... **$8.60**

Switchcraft Model 677P1 Audio Junction Box—Same as No. 676P1 except has two phono jacks for plug-in of additional junction boxes. List Price..... **$12.10**

Switchcraft Model 678P1 Deluxe Private Listening Station—Same as No. 672P1 except has two phono jacks at input for feeding in and out for multiple hook-ups. List Price..... **$12.60**

SWITCHCRAFT® INC. Audio Adapters

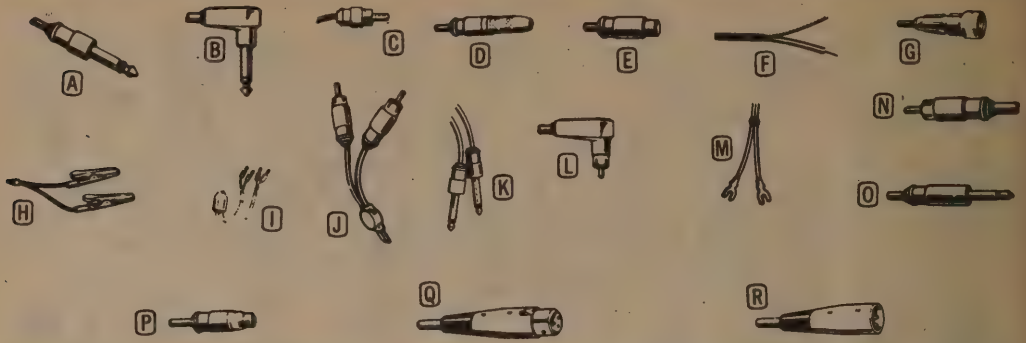


A complete line of versatile adapters for interconnecting components without mating jacks and/or plugs. For hi-fi, stereo, phonographs, tuners, tape recorders, amplifiers, PA systems, etc. Positive mating design prevents line losses. Nickel-plated finish for long life.

Part No.	Fig.	Description (Connector Terminals)	List Ea.
25YP1	A	**Y Adapter**—Two parallel male mike connectors to one female mike connector	$ 4.75
44P1	B	**Phone Plug Adapter**—Adapts female mike connector to male phone plug output	1.45
328AP1	C	**Audio Equalizer**—Converts ceramic phono cartridge to magentic input; phone jack input to phone plug output	7.10
330CP1	D	**Stereo Adapter**—European type 5 pin (at 180°) plug to two phono extension jacks, 8″ shielded cable	6.55
330FP1	E	**Y Adapter**—Two parallel phono jacks to a phono plug, shielded	4.55
330F1P1	F	**Flexible Y Adapter**—Two parallel phono jacks to a phono plug, shielded 4″ cable	4.55
330F2P1	.....	**Flexible Y Adapter**—Same, but jack and plug to plug arrangement	4.55
330F3P1	.....	**Flexible Y Adapter**—Same as No. 330F1P1, but two phono plugs to one phono plug	4.55
330GP1	G	**Stereo Cable Adapter**—European 5-pin plug to four phono jacks, shielded, 12″ color-coded stereo cables	14.00
330HP1	H	**Flexible Y Adapter**—European 3-pin plug to two phono jacks, 5″ shielded, color-coded cable	7.25
330MP1	I	**Y Adapter**—Two parallel mike connectors to a 2-conductor phone plug, shielded	4.85
330PJP1	.....	**Y Adapter**—Same, but two phono jacks to a 2-conductor phone plug, shielded	4.85
330T1P1	J	**Flexible Y Adapter**—2-conductor "Tini-Plug" (¾″ dia.) to two phono jacks, 6″ long	5.55
330T2P1	.....	**Flexible Y Adapter**—Same, but to two phono plugs	5.55
330T3P1	.....	**Flexible Y Adapter**—Same, but to two 2-cond. "Tini-Jax", 4″ shielded cable	5.55
332AP1	K	Phone jack input to female mike connector output, shielded*	3.30
334AP1	L	Phono jack input to female mike connector output, shielded	3.30
335AP1	M	Switchcraft 2501MP1 male mike input to Switchcraft A3FP1 output; internal wire unsoldered one end	6.65
336AP1	N	2-conductor phone jack input to phono plug output, shielded	3.65
336SP1	.....	Same, but phono jack output, shielded	3.55
338SP1	.....	Phono plug input to female mike connector output, shielded	2.95
339AP1	O	Switchcraft 2501FP1 output to Switchcraft A3MP1 input; internal wire unsoldered one end	6.65
340P1	P	Two parallel 2-conductor phone jack inputs to 2-conductor phone plug output, shielded	8.00
343P1	Q	Phono jack input to phone plug output; series resistor for adapting radio/TV to tape recorder	4.15
345AP1	R	Phono jack input to phone plug output, shielded	2.95
349AP1	S	**Phono Plug Coupler**—Mates with phono plug at each end, shielded	2.50
352AP1	T	**Stereo to Mono Adapter**—3-conductor phone jack input to 2-conductor phone plug output, shielded	4.55
353P1	U	**Stereo Headphone Adapter**—Parallel 3-conductor phone jack inputs to 3-conductor phone plug output	10.55
353CP1	Q	**Flexible Stereo Adapter**—3-conductor phone plug to two 3-conductor phone jacks, 6″ shielded cable	10.55
356P1	V	**"Tini-Jax" Coupler**—2-conductor input to 2-conductor output	4.55
357P1	X	2-conductor Tini-Plug® miniature phone plug input to Tini-Plug output	3.80
361AP1	W	**Coupler**—2-conductor phone jack at each end, shielded	5.00
363P1	AA	**Coupler**—2-conductor phone plug at each end, shielded	4.55
364AP1	AB	**Adapter**—2-conductor "Tini-Jax" input to standard phone plug output, shielded	3.40
365P1	AC	**Adapter**—Same, but to phono jack, shielded	3.40
369P1	U	2-cond. Revere/Wollensak phone jack to std. 2-cond. phone plug; shielded, nickel-plated brass handle	4.55
370AP1	S	Phono jack to 2-conductor "Tini-Plug", shielded	2.70
374P1	U	Phone jack input to 2-conductor "Tini-Plug" output; shielded, nickel-plated brass handle	3.90
375P1	.....	Phono jack input to 2-cond. Micro-Plug output; shielded, nickel-plated brass handle	3.55
376P1	AD	"Tini-Jax" input to 2-cond. Micro-Plug output; shielded, nickel-plated brass handle	3.55
377P1	AD	Micro-Jax input to 2-cond. "Tini-Plug" output; shielded, nickel-plated brass handle	3.55
378P1	AE	**Adapter**—2-cond. "Tini-Plug" input to two 2-cond. "Tini-Jax" outputs; shielded	4.30
379P1	AF	**Speaker Enclosure Phono Jax**—Molded, flanged phono jack to stripped, tinned leads; three #6 x ½″ screws	2.60
383AP1	AG	**Adapter Connector**—3-cont. A3FP1 female mike input to 2-cond. phone jack output, shielded	9.05
384AP1	AH	**Adapter Connector**—3-pin A3MP1 male mike input to 2-cond. phone jack output, shielded	8.30
386AP1	AI	**Adapter Connector**—3-cont. A3FP1 female mike input to 3-cond. phone plug output, shielded	8.85
387AP1	AJ	**Adapter Connector**—3-pin A3MP1 male mike input to 3-cond. phone plug output, shielded	7.90
388P1	U	**Adapter**—2-cond. .206″ dia. phone plug input to 2-cond. standard phone jack, shielded	5.00
389P1	AK	**Adapter Connector**—3-cont. A3FP1 female mike input to A3MP1 male mike output, shielded	9.30
390P1	AL	**Adapter Connector**—3-pin A3MP1 male mike input to A3MP1 male mike output, shielded	7.90
392P1	AM	2-conductor standard phono plug input to standard phono plug output	5.25
395P1	AN	**Coupler**—2-conductor phone jack input to "Tini-Plug" output, shielded	4.55
396P1	AO	**Adapter**—2-conductor "Tini-Plug" to 3-conductor phone jack, 6″ long, shielded	5.70
397P1	AP	3-conductor phone plug input to 3-conductor phone plug output	6.25

*Use as male or female mike connector with coupling ring supplied.

SWITCHCRAFT® INC. Cable Assemblies



Quality, molded cable assemblies feature built-in cable clamps to support cable and eliminate strain. All connections mechanically secure and soldered. Easy-grip, functional handle design. Chrome-gray cable with matching plastic handles. Parallel and clear vinyl cables are not shielded.

Part No.	Terminal Figs. End #1	End #2	Cable Type	Lgth.	List Price
STRAIGHT 2-CONDUCTOR PHONE PLUG					
05AC05P1	A	A	Shielded	1½ ft.	$ 3.80
05AD05P1	A	A	Shielded	2 ft.	4.30
05AK05P1	A	A	Shielded	6 ft.	6.40
05AN05P1	A	A	Shielded	10 ft.	6.50
05AR05P1	A	A	Shielded	15 ft.	7.25
05AU05P1	A	A	Shielded	25 ft.	8.60
05AK15P1	A	B	Shielded	6 ft.	4.75
05AN15P1	A	B	Shielded	10 ft.	6.50
05AR15P1	A	B	Shielded	15 ft.	7.25
05AK25P1	A	C	Shielded	6 ft.	4.00
05AN25P1	A	C	Shielded	10 ft.	5.60
05AR25P1	A	C	Shielded	15 ft.	6.05
05AK80P1	A	D	Shielded	6 ft.	6.45
05AN80P1	A	D	Shielded	10 ft.	7.40
05AR80P1	A	D	Shielded	15 ft.	8.35
05AU80P1	A	D	Shielded	25 ft.	10.10
05AK82P1	A	E	Shielded	6 ft.	4.70
05AK84P1	A	F	Shielded	6 ft.	3.30
05AN84P1	A	F	Shielded	10 ft.	6.05
05AR84P1	A	F	Shielded	15 ft.	6.50
05AN87P1	A	G	Shielded	10 ft.	7.75
05KJ88P1†	A	I	Parallel	5 ft.	7.60
05LT05P1	A	A	Coiled	20 ft.	17.55
05LT15P1	A	B	Coiled	20 ft.	17.55
05NJ88P1†	A	I	Coiled	5 ft.	7.40
STRAIGHT 3-CONDUCTOR PHONE PLUG					
10BN10P1	A	A	Shielded	10 ft.	$12.00
10BK81P1	A	D	Shielded	6 ft.	9.60
10BN81P1	A	D	Shielded	10 ft.	12.00
10BU81P1	A	D	Shielded	25 ft.	17.45
10FK25P1§	A	J	Shielded	6 ft.	8.00
RIGHT ANGLE 2-CONDUCTOR PHONE PLUG					
15AK15P1	B	B	Shielded	6 ft.	$5.25
15AN15P1	B	B	Shielded	10 ft.	7.10
15AK25P1	B	C	Shielded	6 ft.	4.05
15AU80P1	B	D	Shielded	25 ft.	9.30
RIGHT ANGLE 3-CONDUCTOR PHONE PLUG					
381P1	B	K	Shielded	11 ft.	$15.10
3-CONDUCTOR EXTENSION PHONE JACK					
05FH81P1	D	K	Shielded	4 ft.	$10.25
25FH81P1	D	J	Shielded	4 ft.	7.20
STRAIGHT PHONO PLUG					
25AC25P1	C	C	Shielded	1½ ft.	$2.25
25AF25P1	C	C	Shielded	3 ft.	2.45
25AH25P1	C	C	Shielded	4 ft.	2.80
25AK25P1	C	C	Shielded	6 ft.	3.00
25AN25P1	C	C	Shielded	10 ft.	4.15
25AR25P1	C	C	Shielded	15 ft.	5.00
25AT25P1	C	C	Shielded	20 ft.	6.00
25AU25P1	C	C	Shielded	25 ft.	7.10
25AK30P1	C	L	Shielded	6 ft.	3.00
25AK80P1	C	D	Shielded	6 ft.	4.00
25AC82P1	C	E	Shielded	1½ ft.	2.45
25AF82P1	C	E	Shielded	3 ft.	2.70
25AH82P1	C	E	Shielded	4 ft.	3.25
25AK82P1	C	E	Shielded	6 ft.	3.55
25AN82P1	C	E	Shielded	10 ft.	4.15
25AR82P1	C	E	Shielded	15 ft.	5.00
25AT82P1	C	E	Shielded	20 ft.	6.00
25AU82P1	C	E	Shielded	25 ft.	7.10
25AC84P1	C	F	Shielded	1½ ft.	1.65
25AF84P1	C	F	Shielded	3 ft.	1.95
25AH84P1	C	F	Shielded	4 ft.	1.95
25AK84P1	C	F	Shielded	6 ft.	2.35
25AN84P1	C	F	Shielded	10 ft.	$3.30
25CK85P1	C	M	Parallel	6 ft.	2.10
25CN85P1	C	M	Parallel	10 ft.	2.95
25CU85P1	C	M	Parallel	25 ft.	5.00
25CK86P1	C	H	Parallel	6 ft.	3.60
25CN86P1	C	H	Parallel	10 ft.	4.55
25FF25P1*	C	C	Shielded	3 ft.	6.55
25FK25P1*	C	C	Shielded	6 ft.	7.45
25FN25P1*	C	C	Shielded	10 ft.	8.90
25FF82P1*	C	E	Shielded	3 ft.	5.95
25FK82P1*	C	E	Shielded	6 ft.	6.95
25FN82P1*	C	E	Shielded	10 ft.	8.10
25FF84P1*	C	F	Shielded	3 ft.	5.85
25FK84P1*	C	F	Shielded	6 ft.	6.55
25WN25P1	C	C	Clear vinyl	10 ft.	3.30
25WT25P1	C	C	Clear vinyl	20 ft.	3.65
25WN82P1	C	E	Clear vinyl	10 ft.	3.05
25WT82P1	C	E	Clear vinyl	20 ft.	3.35
25WN84P1	C	F	Clear vinyl	10 ft.	2.25
25WT84P1	C	F	Clear vinyl	20 ft.	2.95
25WV84P1	C	F	Clear vinyl	30 ft.	5.25
25WT85P1	C	M	Clear vinyl	20 ft.	3.95
25WV85P1	C	M	Clear vinyl	30 ft.	5.25
25WW85P1	C	M	Clear vinyl	50 ft.	7.65
LONG HANDLE PHONO PLUG					
26AF26P1	N	N	Shielded	3 ft.	$2.70
26AK26P1	N	N	Shielded	6 ft.	3.25
26AN82P1	N	E	Shielded	10 ft.	4.25
RIGHT ANGLE PHONO PLUG					
30AC30P1	L	L	Shielded	1½ ft.	$2.15
30AK30P1	L	L	Shielded	6 ft.	2.95
STRAIGHT "TINI-PLUG"					
40DF05P1	O	A	Shielded	3 ft.	$4.30
40DK05P1	O	A	Shielded	6 ft.	5.05
40DN05P1	O	A	Shielded	10 ft.	5.45
40DF25P1	O	C	Shielded	3 ft.	3.90
40DK25P1	O	C	Shielded	6 ft.	2.30
40DN25P1	O	C	Shielded	10 ft.	5.25
40DK40P1	O	O	Shielded	6 ft.	5.30
40DK80P1	O	D	Shielded	6 ft.	5.05
40DF82P1	O	E	Shielded	3 ft.	3.25
40DK82P1	O	E	Shielded	6 ft.	4.60
40DK83P1	O	P	Shielded	6 ft.	5.05
40DN83P1	O	P	Shielded	10 ft.	5.95
40DF84P1	O	F	Shielded	3 ft.	3.30
40DK84P1	O	F	Shielded	6 ft.	3.65
40DN84P1	O	F	Shielded	10 ft.	4.60
40DN86P1	O	H	Shielded	10 ft.	4.60
PHONO EXTENSION JACKS					
82AF82P1	E	E	Shielded	3 ft.	$3.30
82AK82P1	E	E	Shielded	6 ft.	3.95
CORDS WITH SPADE LUGS					
85CN85P1	M	M	Parallel	10 ft.	$1.85
85CT85P1	M	M	Parallel	20 ft.	3.00
85CU85P1	M	M	Parallel	25 ft.	3.65
85WV85P1	M	M	Clear vinyl	30 ft.	4.95
85WW85P1	M	M	Clear vinyl	50 ft.	7.50
MICROPHONE CONNECTOR					
91BU92P1	Q	R	Shielded	25 ft.	$23.75

†Monophonic headset replacement cord for Brush BA-200, -205, -206 and RCA MI-38107B. §Stereo, 3-cond. dual mike assembly for Norelco, Webcor, Revere and Wollensak tape recorders. *Two shielded, insulated cables in common gray plastic jacket give two isolated channels; dual connectors, color coded.

HUBBELL 3-WIRE GROUNDING CAPS & CONNECTORS

5-15

15A – 125V Parallel Slot


5266-C
8215-C


5965-VY


5921


5266CA
5266CAT


5280-C


5299


5269-C


5269


5295

PRICE EACH

No.	Type	Hole	Each	10	50
	Cord Grip Caps				
5266-C	Insulgrip	.687	$ 6.24	$ 5.55	$ 4.85
8215-C	Hospital	.687	6.83	6.07	5.31
5965-VY	Nylon	–	3.92	3.48	3.05
5921	Neoprene	.468	4.59	4.08	3.57
5923	Neoprene	.700	4.59	4.08	3.57
	Insulgrip Angle Caps				
5266-CA	Black	.640	$ 6.90	$ 6.13	$ 5.36
5266-CAT	Trans.	.640	7.47	6.64	5.81
	Angle Anchor Lock Cap				
5280-C	Armored	.625	$10.26	$ 9.12	$ 7.98
	Fusible				
5299	Vinyl	.625	$13.38	$11.89	$10.40
	Connector Bodies				
5269-C	Insulprene	.687	$11.05	$ 9.82	$ 8.59
5269	Armored	.625	6.16	5.48	4.79
5268	No Grip	.437	4.65	4.13	3.61
5207	Insulprene	.625	7.18	6.38	5.58
5295	Rubber	.468	9.81	8.72	7.63

HUBBELL 3-WIRE GROUNDING FLANGED RECEPTACLES

5-15

15A–125V Parallel Slots


5256


5279

PRICE EACH

No.	Terminals	Each	10	50
5256	Open	$ 7.76	$ 6.90	$6.04
5279	Covered	13.59	12.08	10.59

HUBBELL 3-WIRE GROUNDING CAPS & CONNECTORS

6-15

15A – 250V Tandem Slot


5666-C


5925


5669


5656


5668

PRICE EACH

No.	Type	Hole	Each	10	50
	Cord Grip Caps				
5666-C	Insulgrip	.687	$ 6.84	$ 6.08	$5.32
5666-VY	Nylon	.660	4.72	4.20	3.67
5925	Neoprene	.468	7.15	6.36	5.56
	Insulgrip Angle Caps				
5666-C	Black	.640	$ 6.84	$ 6.08	$5.32
5666-CAT	Trans.	.640	8.22	7.31	6.39
	Connector Bodies				
5669-C	Insulgrip	.687	$12.51	$11.12	$9.73
5607	Insulprene	.625	11.07	9.84	8.61
5669	Armored	.625	9.79	8.70	7.61
	Flanged Receptacle				
5656	Phenolic	–	$ 7.99	$ 7.10	$6.21
	Inlet				
5668	Phenolic	–	$ 7.01	$ 6.23	$5.45

HUBBELL 3-WIRE GROUNDING CAPS & CONNECTORS

6-20

20A – 250V Tandem "T" Slot


5466-C


5469-C


5474

PRICE EACH

No.	Type	Hole	Each	10	50
	Cord Grip Caps				
5466-C	Insulgrip	.687	$ 8.51	$ 7.56	$ 6.62
5464-VY	Nylon	.660	7.99	7.10	6.21
	Connector Bodies				
5469-C	Insulgrip	.687	$13.43	$11.94	$10.45
5474	Armored	.625	11.97	10.64	9.31

HUBBELL 3-WIRE GROUNDING CAPS & CONNECTORS

5-20

20A – 125V Parallel "T" Slot


5366-C


5369-C


5374

PRICE EACH

No.	Type	Hole	Each	10	50
	Cord Grip Caps				
5366-C	Insulgrip	.687	$ 8.15	$ 7.24	$ 6.34
5364-VY	Nylon	.660	7.66	6.81	5.96
	Armored Angle Cap				
5366-CA	Angle	.625	$ 9.23	$ 8.20	$ 7.18
	Connector Bodies				
5369-C	Insulgrip	.687	$13.11	$11.65	$10.19
5374	Armored	.625	11.31	10.05	8.79

Hubbell 3-Wire Grounding Receptacles



HUBBELL 3-WIRE GROUNDING DUPLEX RECEPTACLES

15A – 250V
Tandem Slot

6-15

PRICE EACH

No.	Color	Wired	Each	10	50
5652	Brown	Side	$ 6.40	$ 5.68	$4.98
5652-I	Ivory	Side	6.98	6.20	5.42
5662*	Brown	Back	11.26	10.00	8.76
5662-I*	Ivory	Back	11.80	10.48	9.18
	On 4" Round Box Cover				
5682*	Brown	Back	$12.34	$10.98	$9.60

* – Specification Grade.



HUBBELL 3-WIRE GROUNDING SINGLE RECEPTACLES

15A – 250V
Tandem Slot

6-15

PRICE EACH

No.	Color	Wired	Each	10	50
5651	Brown	Side	$3.78	$3.36	$2.94
5661*	Brown	Back	8.16	7.24	6.34
5661-I*	Ivory	Back	8.68	7.72	6.74
	On Metal Box Cover				
5654	4"	–	$6.88	$6.12	$5.34

* – Specification Grade.

HUBBELL 3-WIRE GROUNDING SINGLE RECEPTACLES



On Short Strap
15A – 250V
Tandem Slot
Brown Phenolic

6-15

PRICE EACH

No.	Mtg. Centers	Each	10	50
5684	1 15/16"	$6.54	$5.81	$5.08
5658	1 3/4	4.18	3.72	3.25

HUBBELL 3-WIRE GROUNDING DUPLEX RECEPTACLES



15A – 277V
Crowfoot Slots

7-15

PRICE EACH

No.	Color	Each	10	50
5302	Brown	$11.48	$10.20	$8.93
5302-I	Ivory	11.98	10.65	9.32

HUBBELL 3-WIRE GROUNDING DUPLEX RECEPTACLES

20A – 125V
Parallel "T" Slot



5-20

PRICE EACH

No.	Color	Each	10	50
	Specification Grade Back & Side Wiring			
5362	Brown	$10.62	$ 9.44	$ 8.26
5362-I	Ivory	10.78	9.58	8.38
	Standard Grade Back & Side Wiring			
5352	Brown	$ 7.96	$ 7.08	$ 6.18
5352-I	Ivory	8.52	7.56	6.62
	Side Wiring Only			
5342	Brown	$ 5.20	$ 4.62	$ 4.04
5342-I	Ivory	5.40	4.80	4.20
	Hospital Grade			
8300	Brown	$12.98	$11.54	$10.10
8300-I	Ivory	13.60	12.10	10.58

HUBBELL 3-WIRE GROUNDING SINGLE RECEPTACLES



20A – 125V
Parallel "T" Slot

5-20

PRICE EACH

No.	Color	Wired	Each	10	50
5351	Brown	Side	$5.54	$4.92	$4.32
5351-I	Ivory	Side	6.04	5.36	4.70
5361*	Brown	Back	7.78	6.92	6.04
5361-I*	Ivory	Back	7.94	7.06	6.18

* – Specification Grade.

HUBBELL

HUBBELL INDUSTRIAL TYPE 20A–125V SPECIAL CONFIGURATION 3-WIRE GROUNDING TYPE DUPLEX RECEPTACLES

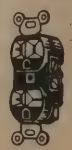


Will accept only 5364 series caps: No 2-wire or 3-wire 15A grounding caps.

PRICE EACH

No.	Color	Each	10	50
5392	Brown	$13.32	$11.84	$10.36

HUBBELL 3-WIRE GROUNDING COMBINATION RECEPTACLE



20A – 125V
5-20R

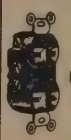
20A – 250V
6-20R

Specification Grade
Back & Side Wiring

PRICE EACH

No.	Color	Each	10	50
5492	Brown	$14.06	$12.50	$10.94

HUBBELL 3-WIRE GROUNDING DUPLEX RECEPTACLES



20A – 250V
Back & Side Wired
Tandem "T" Slot

6-20

PRICE EACH

No.	Color	Each	10	50
5462	Brown	$13.78	$12.24	$10.72
5462-I	Ivory	14.32	12.72	11.14

HUBBELL 3-WIRE GROUNDING SINGLE RECEPTACLES



20A – 250V
Tandem "T" Slots

6-20

PRICE EACH

No.	Color	Each	10	50
5451	Brown	$ 6.26	$5.56	$4.86
5451-I	Ivory	6.76	6.02	5.26
	Back & Side Wired			
5461	Brown	$ 9.92	$8.82	$7.72
5461-I	Ivory	10.44	9.28	8.12

Hubbell Twist-Lock Devices



HUBBELL TWIST-LOCK DUPLEX RECEPTACLES

3-Wire Grounding
Brown Phenolic


15A-125V
NEMA L5-15R


15A-250V
NEMA L6-15R


15A-277V
NEMA L7-15R

PRICE EACH

No.	Rating	Each	10	50
4700	15A-125V	$14.94	$11.96	$10.46
4550	15A-250V	14.14	12.58	11.00
4750	15A-277V	15.10	13.42	11.74



HUBBELL VARILOAD TWIST-LOCK OUTLETS, CAPS & CONNECTORS

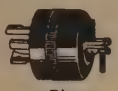
4-Pole 5-Wire Grounding
30 Amp.

PRICE EACH

No.	Type	Pkg.	Each	Ctn.	Pkg.
		● Configuration			
45105	Outlet	10	$26.58	$23.62	$20.68
45115	Cap	10	21.24	18.88	16.52
45135	Conn.	20	36.62	32.54	28.48
		▲ Configuration			
45205	Outlet	10	$26.58	$23.62	$20.68
45215	Cap	10	21.24	18.88	16.52
45235	Conn.	20	36.62	32.54	28.48

HUBBELL MIDGET TWIST-LOCK WIRING DEVICES


Connector Body


Plug


Flanged Inlet


Flanged Receptacle

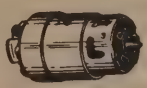
PRICE EACH

No.	Item	Each	10	50
	2-Pole 3-Wire Grounding 15A – 125V			L5-15
7593	Connector	$8.46	$7.52	$6.58
7594	Plug	6.30	5.60	4.90
7595	Inlet	7.64	6.78	5.94
7596	Receptacle	9.00	8.00	7.00
	3-Pole 3-Wire Not Grounding 15A 125/250V			
7484	Connector	$6.90	$6.14	$5.36
7485	Plug	5.02	4.46	3.90
7486	Inlet	6.12	5.44	4.76
7487	Receptacle	7.48	6.64	5.82

HUBBELL 50A TWIST-LOCK WIRING DEVICES


Receptacle


Plug


Connector Body


Flanged Inlet

PRICE EACH

No.	Item	Pkg.	Each	2	Pkg.
	3-Wire Grounding 250V				
CS-8269	Rec.	5	$35.58	$31.64	$27.68
CS-8265	Plug	10	33.26	29.56	25.88
CS-8264	Conn.	10	42.82	38.06	33.30
CS-8275	Inlet	5	32.86	29.22	25.56
	4-Wire Grounding 125/250V				
CS-6369	Rec.	10	$35.58	$31.64	$27.68
CS-6365	Plug	10	33.26	29.56	25.88
CS-6364	Conn.	10	42.82	38.06	33.30
CS-6375	Inlet	5	32.86	29.22	25.56
	4-Wire Grounding 3Ø 480V				
CS-8169	Rec.	10	$35.58	$31.64	$27.68
CS-8165	Plug	10	33.26	29.56	25.88
CS-8164	Conn.	10	42.82	38.06	33.30
CS-8175	Inlet	5	32.86	29.22	25.56
	Weatherproof Cast Aluminum Lift Cover Plate For Receptacles				
7770	–	5	$17.10	$15.20	$13.30

HUBBELL ALUMINUM LIFT COVER PLATE



For 3330 & 3430 Twist-Lock Receptacle

Less Receptacle

PRICE EACH

No.	Each	2	10
3393	$16.54	$14.70	$12.86

HUBBELL SEAL-TITE COVERS

Black Neoprene
For Twist-Lock Insulgrip Plugs And Connector Bodies


6024
6032
6036

For connector bodies when used in a cord set.


6023
6031
6035

For plugs when used in a cord set and for connector bodies when used with flanged inlets.

PRICE EACH

No.	Wire	Amp.	Each	10
6023	2 & 3	10 & 15	$3.40	$2.98
6024	2 & 3	10 & 15	4.18	3.64
6031	2 & 3	20 & 30	5.14	4.50
6032	2 & 3	20 & 30	5.90	5.16
6035	4 & 5	20 & 30	5.62	4.92
6036	4 & 5	20 & 30	5.62	4.92



TWIST-LOCK LIFT LID PLATE

For 20A 2, 3 or 4-Wire Receptacles

PRICE EACH

No.	Ctn.	Pkg.	Each	Ctn.	Pkg.
			Cast Metal		
7418	10	20	$12.54	$11.16	$ 9.76
			Aluminum		
7420	2	10	$16.54	$14.70	$12.86
			Fiberglas		
7425	2	10	$20.34	$18.08	$15.82

HUBBELL WEATHERPROOF LIFT COVER PLATE



Gray Fiberglass
Will Fit FS or FD Boxes
For Single Outlets
Gaskets & Mounting Screws Supplied

PRICE EACH

No.	Boss Dia.	Each	2	10
7423	1.375-1.390"	$20.66	$18.36	$16.06
7424	1.703-1.718	20.66	18.36	16.06

Phone (617) 749-6700 For Fast Service

HUBBELL
TWIST–LOCK DEVICES
4 & 5 Wire – 20 & 30 Amp. – Nylon Type


1 — Single Receptacle Black Melamine


2 — Plug


3 — Connector Body Black & White Nylon Insulgrip


4 — Flanged Inlet


5 — Flanged Receptacle Clear Lexan Casing

PRICE EACH

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 125/250V NEMA L14-20		
1	2410	30	$14.62	$13.00	$11.37
2	2411	10	11.29	–	9.88
3	2413	10	15.47	–	13.53
4	2415	10	11.64	–	10.19
5	2416	10	15.72	–	13.76
			30A – 125/250V NEMA L14-30		
1	2710	30	$22.15	$19.69	$17.23
2	2711	10	14.66	–	12.83
3	2713	10	31.61	–	27.66
4	2715	10	18.65	–	16.32
5	2716	10	20.29	–	17.75
			30A – 3Ø 600V NEMA L17-30		
1	2740	30	$22.15	$19.69	$17.23
2	2741	10	14.66	–	12.83
3	2743	10	31.61	–	27.66
4	2745	10	18.65	–	16.32
5	2746	10	20.29	–	17.75

3 Pole 4 Wire Grounding

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 3Ø 250V NEMA L15-20		
1	2420	30	$14.62	$13.00	$11.37
2	2421	10	11.29	–	9.88
3	2423	10	15.47	–	13.53
4	2425	10	11.64	–	10.19
5	2426	10	15.72	–	13.76
			30A – 3Ø 250V NEMA L15-30		
1	2720	30	$22.15	$19.69	$17.23
2	2721	10	14.66	–	12.83
3	2723	10	31.61	–	27.66
4	2725	10	18.65	–	16.32
5	2726	10	20.29	–	17.75

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 3Ø 480V NEMA L16-20		
1	2430	30	$14.62	$13.00	$11.37
2	2431	10	11.29	–	9.88
3	2433	10	15.47	–	13.53
4	2435	10	11.64	–	10.19
5	2436	10	15.72	–	13.76
			30A – 3Ø 480V NEMA L16-30		
1	2730	30	$22.15	$19.69	$17.23
2	2731	10	14.66	–	12.83
3	2733	10	31.61	–	27.66
4	2735	10	18.65	–	16.32
5	2736	10	20.29	–	17.75

4 Pole 5 Wire Grounding

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 3ØY 120/208V NEMA L21-20		
1	2510	20	$17.46	$15.52	$13.58
2	2511	10	13.95	–	12.20
3	2513	10	24.07	–	21.06
4	2515	10	18.74	–	16.40
5	2516	10	32.68	–	28.59
			30A – 3Ø 120/208V NEMA L21-30		
1	2810	20	$24.38	$21.67	$18.96
2	2811	10	16.56	–	14.49
3	2813	10	30.62	–	26.79
4	2815	10	19.21	–	16.81
5	2816	10	35.56	–	31.11

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 3ØY 277/480V NEMA L22-20		
1	2520	20	$17.46	$15.52	$13.58
2	2521	10	13.95	–	12.20
3	2523	10	24.16	–	21.14
4	2525	10	18.76	–	16.42
5	2526	10	32.68	–	28.59
			30A – 3ØY 277/480V NEMA L21-30		
1	2820	20	$24.38	$21.67	$18.96
2	2821	10	16.56	–	14.49
3	2823	10	30.62	–	26.79
4	2825	10	19.21	–	16.81
5	2826	10	35.56	–	31.11

Fig.	No.	Pkg.	Each	10	Pkg.
			20A – 3ØY 347/600V NEMA L23-20		
1	2530	20	$17.46	$15.52	$13.58
2	2531	10	13.95	–	12.20
3	2533	10	24.16	–	21.14
4	2535	10	18.76	–	16.42
5	2536	10	32.68	–	28.59
			30A – 3ØY 347/600V NEMA L23-30		
1	2830	20	$24.38	$21.67	$18.96
2	2831	10	16.56	–	14.49
3	2833	10	30.62	–	26.76
4	2835	10	19.21	–	16.81
5	2836	10	35.56	–	31.11

Service and Satisfaction—Since 1887

HUBBELL TWIST-LOCK DEVICES



1
Single Receptacle
Black Melamine
Or Brown Phenolic



2
Plug



3
Connector Body
Black & White
Nylon Insulgrip



4
Flanged
Inlet



5
Flanged
Receptacle
Clear Lexan Casing

PRICE EACH

2 Pole 3 Wire Grounding

Fig.	No.	Pkg.	Each	10	Pkg.	No.	Pkg.	Each	10	Pkg.	No.	Pkg.	Each	10	Pkg.
			15A–125V NEMA L5-15					15A–250V NEMA L6-15					15A–277V NEMA L7-15		
1	4710	50	$ 9.00	$ 8.00	$ 7.00	4560	50	$ 9.28	$ 8.25	$ 7.22	4760	50	$10.04	$ 8.92	$ 7.81
2	4720-C	50	6.52	5.80	5.02	4570-C	50	6.88	6.12	5.35	4770-C	50	7.28	6.47	5.66
3	4729-C	50	11.67	10.37	9.07	4579-C	50	11.96	10.63	9.30	4779-C	50	12.53	11.14	9.75
4	4716-C	30	7.58	6.72	5.88	4586-C	30	7.97	7.08	6.20	4786-C	30	8.46	7.52	6.58
5	4715-C	30	8.76	7.59	6.81	4585-C	30	10.37	9.22	8.07	4785-C	30	10.94	9.72	8.51
			20A–125V NEMA L5-20					20A–250V NEMA L6-20					20A–277V NEMA L7-20		
1	2310	20	$11.93	$ 9.72	$ 8.50	2320	20	$10.93	$ 9.72	$ 8.50	2330	20	$10.93	$ 9.72	$ 8.50
2	2311	30	8.28	7.72	6.44	2321	30	8.28	7.36	6.44	2331	30	8.82	7.84	6.86
3	2313	30	12.91	11.48	10.04	2323	30	12.92	11.48	10.05	2333	30	13.75	12.22	10.69
4	2315	20	9.32	8.28	7.25	2325	20	9.32	8.28	7.25	2335	20	9.90	8.80	7.70
5	2316	20	15.00	13.32	11.66	2326	20	15.00	13.32	11.66	2336	20	15.00	13.32	11.66
			20A–480V NEMA L8-20					20A–600V NEMA L9-20							
1	2340	20	$10.93	$ 9.76	$ 8.50	–	–	–	–	–					
2	2341	30	8.82	7.84	6.86	–	–	–	–	–					
3	2343	30	13.75	12.22	10.69	–	–	–	–	–					
4	2345	20	9.90	8.80	7.70	–	–	–	–	–					
5	2346	20	15.00	13.32	11.66	–	–	–	–	–					
			30A–125V NEMA L5-30					30A–250V NEMA L6-30					30A–277V NEMA L7-30		
1	2610	20	$14.93	$13.27	$11.61	2620	20	$15.96	$14.19	$12.41	2630	20	$16.02	$14.24	$12.46
2	2611	30	12.21	10.85	9.49	2621	30	12.21	10.85	9.49	2631	30	14.66	13.04	11.41
3	2613	30	25.23	22.43	18.62	2623	30	25.23	22.43	19.62	2633	30	25.23	22.43	19.62
4	2615	20	16.42	14.60	12.77	2625	20	16.42	14.60	12.77	2635	20	16.42	14.60	12.77
5	2616	20	18.99	16.88	14.77	2626	20	18.99	16.88	14.77	2636	20	18.99	16.88	14.77
			30A–480V NEMA L8-30					30A–600V NEMA L9-30							
1	2640	20	$16.02	$14.24	$12.46	–	–	–	–	–					
2	2641	30	13.13	11.67	10.21	–	–	–	–	–					
3	2643	30	25.23	22.43	18.62	–	–	–	–	–					
4	2645	20	16.42	14.60	12.77	–	–	–	–	–					
5	2646	20	18.99	16.88	14.77	–	–	–	–	–					

3 Pole 3 Wire Not Grounding

			20A – 125/250V Not NEMA					30A – 250V Not NEMA		
1	7310	30	$11.38	$10.12	$ 8.85	3330	30	$14.93	$13.27	$11.61
2	9965-C	30	8.28	7.36	6.44	3331-C	30	12.49	11.10	9.71
3	7314-C	30	12.91	11.48	10.04	3333-C	30	24.80	22.04	19.29
4	3325-C	30	8.68	7.72	6.75	3334-C	30	16.37	14.55	12.73
5	3326-C	30	15.00	13.32	11.66	3335-C	30	18.99	16.88	14.77

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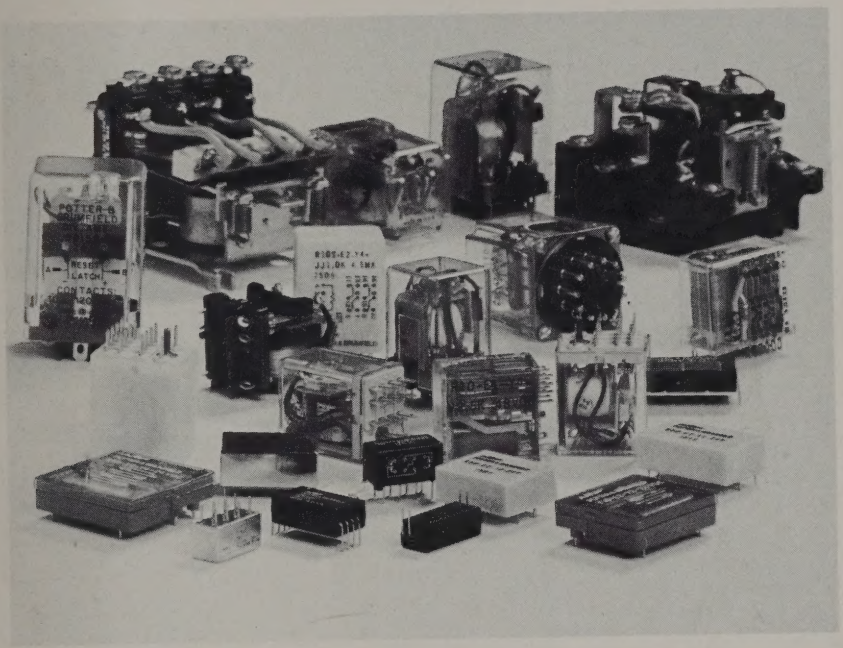
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